THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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WASTE AND COSTS

ONCE more the question of waste has arisen in connection with Government contracts, and although the most extravagant estimate of the total leakage which may be attributed to it must be a small fraction of the total War bill, we think it all the more important that it should be discussed now, and the whole question examined with some care, even in the middle of a war.

It is human nature and, in fact, a form of reality, to judge values in relation to plenty or scarcity; and the natural reaction to news that the country is spending money at the rate of eleven millions a day and that this rate of spending is likely to increase as the war goes on, is to conclude that there must be money in plenty to make such expenditure possible, and that money therefore is something we need not be too fussy about. It is, in fact, a form of mental inflation, which might very well, and very soon, become factual inflation—the one thing which could really embarrass a great and victorious country at war.

This subconscious discounting of the value of money reveals itself almost entirely in waste, and it is that which needs tackling at source if we are to avoid all the inevitable implications of complete surrender to it.

The first point we come to, therefore, is to emphasise that waste is not just a foolish and innocuous game of lighting a bonfire with Treasury notes, but is waste of the brain-power and sweat of the workers—a diversion of effort which, serious enough in peace time, is intolerable in total war.

Now the average private citizen, when the facts are put clearly to him, is well capable of disciplining himself into a vigilant control of waste within his province. It is even a comfort to some of the older people, who have been forced out of a more active part in the war effort, to devise new ways of making the same things go twice as far as in peace time, and among all sections of private citizens it would probably be correct to say that economy has been reduced already to a fine art.

But the most disheartening thing which can confront the man or woman who has made a considerable personal sacrifice to save comparative trifles, is sight or knowledge of waste on a grand scale under the noses of Departments of the Government which have called the loudest for it to stop. Nowhere has this inherent vice of State management a more dangerous and cumulative effect than in matters of building, and most builders and architects are well aware of the steady and continual leakages which have been taking place all down the line since the building programme for rearmament first took shape. Some of the directions in which money, labour and materials have been wasted are referred to in the Fourth Report of the Select Committee on National Expenditure,* an abstract of which was given in our last issue. But the spirit behind this form of moral carelessness is not a war baby, but seems to be inherent in officialdom—a depressing conclusion to have to make seeing that economy is the soul of both design and craftsmanship. We do not mean that officialdom in this country is, or has been, corrupt, for there is no cleaner bureaucracy anywhere; we mean that it has developed the habit of thinking in terms of minutes and routine, and that the war has not shaken it out of these ingrained and deadening habits.

Now these are serious charges to make, and we do not wish to minimise their importance. It is not only a matter of contributing to the needs of the times, but of looking to a future beyond the war period. Year by year the State assumes fresh responsibilities which were formerly the concern only of the private citizen, and we have no means of foretelling the extent to which the State will have to take control of our lives when this unprecedented effort is happily ended.

However partial this control may be, it will mean a wide extension of State control, whatever our inclinations may be. The prospect alarms only when viewed through our experience of State management. One dreads only the dead hand which stretches out from Whitehall and the formalities which seem to engulf official activities in an atmosphere far removed from the realities of practical problems.

Fortunately, the war-time tendency to appoint experienced professional and technical men to executive posts within the Ministry is a safeguard against undue formality.

Coming to practical steps, some sound and eminently practicable suggestions for instituting a satisfactory check upon building operations are contained in the Report referred to. Chief among these is the recommendation that, with certain exceptions, all constructional building whether for Civil or Service Departments should in future be the responsibility of the Ministry of Works and Buildings—a principal object being the reducing of the number of Departments dealing with the same industry or firm. Recommendations for controlling contracts are also made which should help considerably in stabilising costs. These comprise the avoiding of such types of contract as "cost plus" except for work not novel in character; closer official scrutiny of the costs allowed for labour on costed contracts; and the making of arrangements for Intelligence and Statistical branches to collect information and to analyse and compare figures received from costing and other sources so as to provide contracts officers as early as possible with a sound basis for their negotiations and criticisms. The need for skilled professional advice before the work commences is again stressed (para. 51): "Sites should be fully surveyed and the buildings to be put on them carefully planned before the contractor starts work. . . . The argument that the urgency of the need has made it impossible to devote time to adequate surveys and the preparation of full plans breaks down on the general experience that failure to do these things frequently delays rather than expedites completion." Were the recommendations of the Select Committee adopted, one would expect to see a vast improvement in speed of erection, as well as an immense saving in costs.

We have ourselves suggested on several occasions that all Government Departments' building work should be centralised in the Ministry of Works and Buildings. The reinforcement of this proposal by the Select Committee encourages us to hope that something may now be done.

* Fourth Report from the Select Committee on National Expenditure. H.M. Stationery Office. 9d.

THE ENTRANCE FRONT. *Below :* VIEW FROM THE GARDENS.

BLICKLING HALL, NORFOLK

The late Lord Lothian, as stated in our last issue, has bequeathed his Blickling estate in Norfolk to the National Trust, together with nearly all the contents of the Hall. The Trust is at present considering the question of its acceptance. Blickling Hall was built in 1620, and (as our illustrations show) is a Jacobean mansion in brick and stone, as was usual in Norfolk. There are two internal courts. The principal entrance, reached across a moat, has an arched opening with carved spandrels framed with Doric columns and entablature, surmounted by the arms of Sir Henry Hobart. The Hall stands in an estate of some 6,000 acres.

NOTES AND NEWS

Works and Buildings: New Appointments.

Lord Reith, Minister of Works and Buildings, has recently made the following appointments in the Building Priority Department: Mr. Paul Gilbert—Director of Building Programmes; Mr. R. G. Cromwell—Director of Roofing; Mr. Guthlac Wilson, A.M.I.C.E., A.Am.Soc.E.—Director of Constructional Design.

Under the Director of Bricks: Mr. W. Henderson Cleland, M.C.—Commercial Adviser; Mr. George Gee—Assistant Director in Charge of Brick Stocks; Mr. E. H. Palmer, F.S.I.—Deputy Director of Bricks (London).

In accordance with the policy for the closer co-ordination of the brick industry, Deputy Directors of Bricks have been appointed for various areas: Mr. Lockhart W. Hutson, Scotland; Mr. Spencer Silcock, North Eastern and North Wales; Mr. Arthur J. Phillips, Central Midlands; Mr. O. Cattlin, South Western and South Wales; and Mr. W. E. Watson, South Eastern.

Emergency Repair.

Lord Reith, Minister of Works, has been informed that a doubt has arisen in some quarters about the functions of the department of his Ministry dealing with emergency repair and air-raid damage to factories and other buildings, to the head of which Major-General K. C. Appleyard, C.B.E., was recently appointed. Lord Reith wishes it to be clear that the responsibilities of Sir Peter Bennett, Director-General of the Emergency Services Organisation in the Ministry of Aircraft Production, and of his Emergency Reconstruction Panels, are not affected. To prevent confusion of functions the department in the Ministry of Works will be known as the Emergency Repair Department, with General Appleyard as Director. This Department will procure and arrange the flow of materials and additional labour in districts where serious damage occurs; and place at the disposal of the local Reconstruction Panels as well as other bodies technical advice on repairs and reconstruction; and assist as and where necessary in any other cognate matters. The Emergency Service Organisation and its local Reconstruction Panels will have the same responsibility as before for securing the rapid restoration of production in damaged war factories.

Redevelopment of Coventry: A Misunderstanding.

In a report given in our issue for February 7 of the visit to Lord Reith of the Coventry Redevelopment Committee, we stated that "Lord Reith, after a personal visit to Coventry, advocated a wide outlook on the situation, and agreed with town-planning experts of the Ministry of Health that town planning [procedure] was not practicable or appropriate in such a case." The report did not include the word "procedure"—an omission which obviously alters the sense of the Minister's statement. The reference is to legal procedure, the intention being general legislation instead of a multitude of local Bills, and thus acceleration instead of the usual 18 months' delay of local Bills. Hence the Uthwatt Committee.

I.A.A.S. New President.

At this week's Council meeting of the Incorporated Association of Architects and Surveyors, Mr. Victor S. Peel, F.I.A.A., of Birmingham, was elected President of the Association.

Mr. Peel is a native of Birmingham, where he was a pupil at the Oratory School, finishing his education at Bonn and Coblenz. Returning to his native city, he was articled to a well-known Birmingham architect, afterwards founding a practice which he has carried on for over 30 years. He specialises in ecclesiastical and school architecture, and his work has extended to various parts of the country.

The new President has been a member of the Council of the Incorporated Association for over 15 years. He has also been for several years a member of the Birmingham and Five Counties Architectural Association.

At the same meeting, Mr. J. E. Swindlehurst, M.A., M.Inst.C.E., F.I.A.S., Borough Surveyor of Hampstead, was elected Chairman of the Council of the Association, and Mr. C. H. Taylor, F.I.A.S., of Messrs. Taylor Smith, Quantity Surveyors, of New-square, Lincoln's Inn, Vice-Chairman.

Architect's Report on Guildhall.

The work of clearing Guildhall is now in progress. Sir Giles Gilbert Scott, R.A., who has investigated the position generally in collaboration with the City Surveyor, is about to present a report to the Common Council. It is proposed to erect a flat pitched steel roof covered with asphalt at a cost of £2,000.

The Ashpitel Prize, 1940.

The Ashpitel Prize, which is a prize of books to the value of £20 awarded to the candidate who, taking the R.I.B.A. Final Examination to qualify as an Associate, shall most highly distinguish himself among the candidates in the Final Examinations of the year, has been awarded to Mr. Edmund Laurie Cathery, A.R.I.B.A.

IN 1916.

From *The Builder*, February 18.

It has been decided to suspend operations in connection with the erection of the new London County Hall. This step, it is stated, has been taken at the instance of the Ministry of Munitions, which desires to have the workmen released for the purpose of aiding in the construction of munition factories in various parts of the country.

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CORRESPONDENCE

Advertising by Architects.

To the Editor of *The Builder*.

Sir,—The reply to the first question in Mr. Charles Woodward's letter in your issue of February 7 is in the affirmative. An architect who advertised his services by the issue of a monthly circular was found by the Discipline Committee to be guilty of "disgraceful conduct," and was struck off the Register.

It would not be possible for me fully to answer Mr. Woodward's second question without inflicting on your readers a legal essay on the right of freedom of speech, the law of libel, and the rights at common law of statutory bodies, together with the implications of Section 7 of the Architects' Registration Act, 1931. It is, perhaps, sufficient to state that the right of my Council to reprimand architects who have been guilty of unprofessional conduct arises from the right of freedom of speech and writing enjoyed by all his Majesty's subjects. Proceedings for libel would not lie if the communication were made only to the person reprimanded or to members of his own profession.

Pembroke Wicks,
Registrar,
Architects' Registration Council.
68, Portland-place, W.1.

Vatican Palace, Rome: An Inquiry.

To the Editor of *The Builder*.

Sir,—May I use the hospitality of your columns to ask any reader personally and intimately acquainted with the above to get into touch with me and assist with some information? It was closed on my very brief visit to Rome and communication with the curators is presumably impossible to-day. For the purpose of some research I need a solution of some conflicting evidence as to the relative ground and floor levels in the northern half of its length, *i.e.*, between the cross-wings (Biblioteca and Braccio Nuovo) and the Belvedere or Pio-Clementine-Museum wing at the northern end, remotest from St. Peter's. The ground rises northwards, and the storeys are usually named from its level at or near the south end, to the Cortile del Belvedere, but that at the other end is difficult to establish. On cross-section, looking north, it will be recalled that the Giardino della Pigna is flanked by the long corridor-wings, containing on the west side part of the Biblioteca, including the Museo Profano, with the Galleria della Candelabra over it, and on the east side the Museo Chiaramonti, with nothing specified over it; on the outer or west façade the Biblioteca gives by an "ingresso" on to the top of the parallel Vialone di Belvedere, or carriageway, and has windows to it. In the distance, in elevation, is the garden front of the Belvedere front, containing the Museo Egizio with the Museo Etrusco over it.

Now the plans in Letarouilly's "Le Vatican" and in Baedeker make the Biblioteca (on the west) and the Chiaramonti (on the east) to be on what at the south end is the "first" floor (in the English sense), and the Candelabra on the "second," with the two Pio-Clementine floors corresponding to them. An aerial view (Pl. xxxiii) in Gromort's "Renaissance en Italie" shows two storeys in the Belvedere front, with only the hemicycle head above them, and one

storey only above garden level in the east long wing, but two on the west, so that the identifications seem obvious. Yet by that and another view (Pl. xlvii) in Gromort, the long-wing storeys immediately above garden level seem to range, not with the "first" but with the "second" floor, along the length of the building! If this is so, the Biblioteca and Chiaramonti are *below* Giardino level (although the outer face of the former is *above* Vialone level) and the extra storey is unexplained. (The Chiaramonti has blocked windows in Letarouilly.)

The matter is slightly complicated by the fact that the Belvedere-block floors cannot be exactly level with the rest, as shown by Letarouilly and Baedeker, for dog-leg staircases, according to the text of the latter, connect the floors so as to alternate the former like mezzanines; the slightly higher position of the windows in the Belvedere front may confirm this, but does not solve the main problem. Can anyone please help?

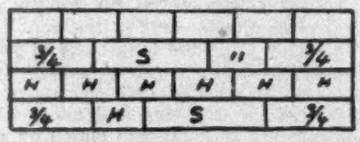
H. V. Molesworth Roberts.

7, Mellows-road,
Wallington, Surrey.

Dutch Bond.

To the Editor of *The Builder*.

Sir,—On examining the plate showing the "George and Star" in *The Builder* of January 31 I find that its main feature is supposed to be Dutch bond. I cannot



agree with your footnote stating that this is a revival, having erected many buildings in this bond. I would point out that if the piers supporting the arches were Dutch bond they should be as sketch.

Chester. J. W. Cook.

Commenting on the foregoing letter, Mr. Basil Oliver, F.S.A., F.R.I.B.A., the architect of the work in question, writes as follows:—

I was particularly interested to know that Mr. J. W. Cook had erected many buildings in Dutch bond because it has invariably been my experience, chiefly confined to the Eastern Counties, that it is not known to bricklayers.

I can at the moment recall only two old buildings where I have noticed it, viz., the so-called Wolsey Gatehouse of Esher Palace, Surrey, and another example at Abbeville, France, many years ago (and probably destroyed last May or June).

In Nathaniel Lloyd's "A History of English Brickwork" there are diagrams, on page 440, of English cross bond and of Dutch bond. The only difference is that the necessary variation is obtained by the use of closers in the former, and by three-quarter bricks in the latter (as in your reader's sketch). Mr. Lloyd used the same illustration in his later and smaller "Building Craftsmanship" (page 81, Fig. 134).

In Mitchell's "Building Construction," page 23 (1900 edition), the author, writing in favour of Dutch bond, mentions that with it ". . . the longitudinal tie becomes much greater, and the appearance of the elevation is certainly superior to much of the inferior work one is accustomed to see as examples of the modern bricklayer's skill in bonding. Should there be a fracture it is supposed to throw it more obliquely. . . ."

It is true that Dutch bond was not used for the two central piers supporting the arches, as your reader noticed from the plate. For these I preferred the more formal symmetrical appearance of alternate courses of three stretchers, and the other consisting of five headers and two closers.

But I admit that it might have been more consistent, though not (in my opinion) so good looking, had the piers been built according to Mr. Cook's perfectly correct sketch.

Owing to the rarity of Dutch bond I still maintain that my use of the word "revival" was quite appropriate.

Standardisation in Architecture.

To the Editor of *The Builder*.

Sir,—It is very kind of Mr. Rhind, following the example of yet another Frenchman, to concede me the right to my own opinions. [See *The Builder*, February 7.]

The only "main thesis" I can find in his original letter appears to be that *all* standardisation is wrong, and "freedom," with a big flourish, right. I did not "simply repeat" his letter—I pointed out some of its fallacies. All these Mr. Rhind ignores.

Though I share his hatred of "the standardisation of souls," it does not blind me to the fact that there has always rightly been some measure of standardisation in things. It is purely a matter of convenience. Getting rid of standard materials as an evil in themselves would no more guarantee good architecture than cutting off the heads of an admittedly corrupt nobility guaranteed a good social system to France. (In passing, I should be prepared to bet than Danton used standard guillotines in his work of "liberation.")

I regard standardisation of materials neither as an evil nor as a panacea; but it is at least a positive step towards simplifying the modern conditions of building.

Is it fair of Mr. Rhind, is it British, now, to make me say that I prefer death to liberty, when my actual words were: "If liberty means the average mess of design we live in give me death"? I have already ordered a standardised harp from the Board of Angels, but as I believe in liberty rather than chaos I shall not be asking for it voluntarily just yet. When the time comes I shall be quite content with a standardised coffin, but I must confess it would be nice to have an unrestricted tombstone designed in some free and unfettered plastic material—if possible, by Mr. Rhind himself.

C. G. Jacobs.

Committee of Technicians in the Building Industry.

To the Editor of *The Builder*.

Sir,—There is much discussion of the need of planned preparation for reconstruction. My committee, whose supporters include such names as Justin Blanco-White, Anthony Cox, Max Lock, F. Skinner and Gordon Stephenson, believes that the quality of reconstruction must primarily depend on political and social conditions.

Most people are irritated by the poor management of war-time building—air-raid damage repair, shelter and evacuation policy, and so on—and must doubt whether reconstruction under similar control would produce any real results. We believe, therefore, that technicians should thoroughly discuss what are the essential political changes required, and then use the weight of their authority in solidarity with all those people in other walks of life who aim at such changes.

An opportunity for considering this attitude is provided on Saturday, March 1, at 2.15, when my committee is arranging a discussion on "Reconstruction for the People," in the Music Room, 9, Great Newport-street, Leicester-square.

I much hope that in addition to Mr. Harry Adams, of the Building Trade Workers; Mr. Michael Best, of the Tenants and Residents; and Mr. Kenneth J. Campbell, who has been associated with the R.I.B.A. Junior Members' Committee as well as with the A.A.S.T.A., as many architects, engineers, surveyors, and other technicians as can will come and add their point of view.

The future work of the committee depends on the moral and financial support and constructive criticism given to it. Our programme envisages a study group to go seriously into the problems of the building industry; and I should be glad to hear from any reader of your journal who would like further information.

David Percival, Hon. Sec.

9, Great Newport-street, W.C.2.

A Proposed Association of Quarry Owners.

To the Editor of *The Builder*.

Sir,—It is gratifying that from time to time you call attention in your paper to the special efforts of British quarry owners to meet the needs of the building and monumental trades, due to foreign supplies being cut off. These efforts would undoubtedly be stimulated if the position after the war could be clarified in some degree. The demands of the building trade may be considerable, quite apart from that of monumentalists and sculptors.

With the cessation of hostilities, large numbers of men will revert to civilian employment. Will they find work, or will they see unlimited supplies of foreign materials again flooding the market, produced at cheap prices and under conditions which would not be tolerated in this country? We know what happened in this respect after the last war, and even up to September, 1939.

In order to cope with the situation which will arise, there is an obvious necessity for quarry owners to be able to approach the various Government Departments, local authorities, church councils, members of the architectural profession, and trade and other associations, with one voice and through their own recognised organisation.

Excellent materials are produced in these islands, which have been proved and are well known to be eminently suited to the nation's requirements. Our mutual interests do not clash, they are complementary. My opinion is that the time is ripe for quarry owners producing building and monumental stones to form an association to ensure proper recognition and protection for their important businesses.

Will those owners who agree with these ideas kindly communicate with me, when I will arrange a meeting for further discussion?

John Hadfield, Director,

The Hopton-Wood Stone Firms, Ltd.

Matlock.

THE LATE C. F. A. VOYSEY

CHARLES FRANCIS ANNESLEY VOYSEY was born on May 28, 1857, and died, to the great regret of his wide circle of friends, on February 12, 1941. Of him it can be truly said that to know him was to like him, but to know him well was to love him.

He had been for more than half a century an outstanding figure in the world of art, but in spite of his fame—which was perhaps greater on the Continent and in America than in the land of his birth—honours came to him late in life.

He was 67 when he was elected Master of the Art Workers' Guild in 1924, and three years later his 70th birthday was very happily celebrated by a dinner given in his honour in the hall of a City Company by a host of friends. In that connection I have heard Mr. C. R. Ashbee say that, in a letter to him at the time, Voysey wrote: ". . . from being an antiquated fossil I have now become an interesting museum piece. . . ."

He was a sturdy individualist, and was the author of a book entitled *Individuality*. He also wrote *Reason as a Basis of Art*, and innumerable papers and lectures. At the beginning of the century, when his fame was at its height, his influence on contemporary domestic architecture in this country and abroad was very considerable, but the efforts of well-meaning imitators reacted to his disadvantage and his flourishing practice gradually dwindled.

Fortunately, however, he was an exceptionally clever and versatile artist, and had an equally wide reputation as a designer of furniture and fittings, wallpapers, textiles, and so forth, and was retained by various manufacturers, but fashions changed, and the demand for his strongly individualistic designs in course of time declined and eventually ceased entirely. The feeling that his work was no longer wanted saddened and almost embittered his later years.

He admired and understood the art of heraldry, and was a particularly successful designer of book-plates, a collection of which is in the possession of the British Museum. Many of these he drew for friends—all too frequently without remuneration. Indeed, the earning of money was a secondary consideration with him.

A few years ago, following the Exhibition of Industrial Art at the Royal Academy, jointly organised by that body and the Royal Society of Arts, Voysey was included amongst the first elected designers for industry (D.I. and later R.D.I.) instituted by the latter Society.

An even more belated honour—but the greatest—came to him last February, when he was in his 83rd year. This was the conferment on him, with the King's approval, of the Royal Gold Medal for Architecture, which is the highest British architectural honour, but he was then unfortunately not well enough to attend the R.I.B.A. to receive the medal at the hands of the President.

In his time Voysey had been a frequent exhibitor both in the Sculpture and the Architectural Rooms of the Royal Academy, and he had been honoured by one-man shows in Holland and America, and more recently a very representative exhibition of his work was held in the Batsford Gallery in North Audley-street, thanks to the enthusiasm of Mr. John Betjeman, who organised it.

THE LATE C. F. A. VOYSEY.

C. F. A. Voysey was the eldest son of the late Rev. C. Voysey, Vicar of Healaugh, Yorkshire, and founder of the Theistic Church, and was descended from John Wesley, to whom he bore some resemblance, and in fact he once sat to Mr. Frank O. Salisbury for a portrait of Wesley.

Voysey was educated at Dulwich, was a pupil of J. P. Seddon, and afterwards served for a time in the office of George Devey before starting in practice on his own account in 1881. He was strong in his likes and his dislikes. To him Gothic architecture was his beau ideal, especially the Tudor style, but he had little sympathy with Renaissance or Wren. He felt that they were foreign and un-English, and he had no desire for, nor belief in, foreign travel, which he thought had a harmful influence on an architect's training. Museums and antiquarianism were also anathema to him.

Although he was at one time considered a pioneer, he had little use for the particular brand of so-called modernism now favoured by some of our younger architects, and I have heard him say that he had "never put panes on their sides nor bricks on their ends," to mention only two of the more tiresome manifestations of the new order in architecture.

Of his two sons and one daughter, Mr. Charles Cowles-Voysey, F.R.I.B.A., is now as well known an architect as his famous father.

BASIL OLIVER.

Mr. Voysey's Works.

Mr. Voysey's architectural works include a convalescent home near Dorking; a cottage hospital, Beaworthy, Devon; cottages at Elmsthorpe and Bradfield, Berks; a factory at Chiswick; and over 117 houses—at Bedford Park, Chiswick; Castle Morton, Worcs; North Luffenham, Rutland; and Compton, Guildford and Haslemere, Surrey. He also designed inns at Stetchworth and Elmsthorpe; an office building at New Broad-street, E.C.; and war memorials at Malvern Wells, Potters Bar, and at York Minster for the K.O.Y.L.I. This last was won in competition.

This list takes no account of the vast amount of designing undertaken by Mr. Voysey. As a correspondent writes: "Reference has often been made to the fact that he designed such things as hinges, chimney-pots and similar details. This has appeared as a kind of joke, which no doubt it was, but may there not be a moral in it also? May it not be true that nothing which goes into a building is too small and unimportant to warrant the care and thought of the designer?" The same correspondent adds: "Voysey was one of a group who led away from the over-elaboration and 'stodginess' of the end of the nineteenth century towards a simpler and more rational expression. It now seems as if this movement was the beginning of a development which has produced what is now known as 'modern.' It all seems to hang together."

A correspondent signing himself "Manufacturer" writes as follows: "I was acquainted with the late Mr. Voysey, indirectly and directly, through a long period of his professional career, and came to look up more and more to this genius of design and invention, although receiving at times chastisement from him.

"After 50 years' association with architects, Mr. Voysey's character and work stand out pre-eminent to me. There was in his buildings that 'something' which was part and parcel of his individuality, impossible to copy, and his example might well be taken by our younger architects who will have such a big field before them soon.

"Well do I remember the criticisms of his buildings by the 'decorative Victorians,' yet I lived to hear these same critics praise his work, which gave me pleasure when recalling that my only answer to those criticisms was 'He built well.'

"Once he asked me if I worked for a well-known architect, and after replying 'No,' was given his card of introduction. Fearing a rebuff I did not go, when to my surprise, a few days later, this architect 'phoned, and then I knew it was not a passing mood but an endeavour of kindly help.

"As showing not only an independent spirit but the love of his work, I recall that when a bailiff to a duke insisted upon an alteration to his design of a portion of a building, Mr. Voysey not only refused to carry it out, but threatened to sue for libel if the job were illustrated with the alteration and carried his name.

"The bailiff tried the same interference on me, but after offering to do exactly what he wanted I pointed out that the articles were designed of a proportion and size to fit in and harmonise with the whole building; the bailiff relented, and the building was illustrated by *The Builder* with the architect's name attached!

"Towards the end of his career I asked Mr. Voysey if he would design a clock for me, and he did so, getting it made by one of his own particular craftsmen—a delightful piece, which I hope long to cherish with his memory."

The late William Weir, F.R.I.B.A.

We have to record the death, on February 10, of Mr. William May Weir, F.R.I.B.A., aged 76, of Gerrards Cross.

Mr. Weir (who is not to be confused with Mr. William Weir, L.R.I.B.A., of the S.P.A.B., still happily with us) received his architectural education at University College and the Architectural Association, and became a pupil of the late James Weir, F.R.I.B.A., with whom he afterwards became a partner. Buildings carried out to his designs included Wesleyan mission premises at Deptford and Stepney; several churches in the Home Counties; domestic work at Holywell Priory, Eastbourne, and elsewhere; London factories for the Westinghouse Brake Co.; and racquet and real tennis courts at Suffolk Lodge, Newmarket; Hardwick House, Oxon.; and Moreton Morrell, Warwick. For 15 years he was lecturer on planning and design to the Regent-street Poly.

WAR-TIME BUILDING PRACTICE

By R. Cotterell Butler, A.R.I.B.A.

44.—PROVISIONAL BUILDING—I. The design and construction of emergency building for war-time and immediate post-war purposes; for the temporary replacement of essential war-damaged structures.

A CONSIDERABLE proportion of the civil buildings damaged by enemy action in this country are the smaller shops and similar business premises. The importance of these small buildings to the life of the community of both urban and suburban areas is very considerable, and the maintenance of the services they provide is an important element in keeping a satisfactorily organised civilian population. Therefore, while at the moment it would seem both practicable and necessary to postpone until after the war the greater part of the necessary building, the provision of certain types of structure must be carried out during the interim period. Indicative of the importance of this are the present official measures providing for the repair of damaged factory premises.

THE LIFE OF TEMPORARY STRUCTURES

An unfortunate aspect of the growth of most districts—town or country—is the tendency for a building erected only as a temporary measure to be kept in commission long after its real period of usefulness has ceased. The reasons for this are primarily economic, partly psychological, and altogether obvious and easily appreciated. Extensive building during the last war did not occur, and wartime structures other than those of a military nature did not therefore exist. Nevertheless, many of the structures designed to meet the housing shortage immediately after 1919, erected primarily as a temporary measure, have in the course of time ceased to be considered for what they were intended, and serve only to give an entirely wrong impression of the quality of modern building. It seems to be a human failing to compare the good of one period with the bad of another, and many times have those temporary little efforts been compared with the domestic dwellings of a hundred years before—houses designed not only for a higher-income group, but with inexpensive labour and material and what would seem unlimited time.

If, therefore, war-time building is to some extent a necessity, and equally for economic and other reasons it must be of a purely temporary type, then let it be quite certain that it is temporary, understood to be such, and that suitable technical and other steps are taken to make certain that it is not allowed to outlast its normal amortisation period.

Adjusting the potential life of building components is a more difficult process than similar attempts in other industries. The extent to which the automobile manufacturer, for instance, contrives that most models he produces tend to wear out all together, instead of part by part, is quite remarkable.

PROVISIONAL STRUCTURES

Provisional buildings for replacing the more important damaged ones are essential in many ways. The small shop or store is an integral part of the life of an urban community no less than of a country one, and this tends to be even more the case during war-time. From a local and personal point of view, nothing is more likely to disorganise the housewife's general arrangements—particularly in view of the black-out—than the absence of local shops. Again, the smaller trades would automatically become a national liability were their means of living destroyed.

Food distribution is certainly one of the most essential war-time services, and this has necessitated not only an extensive and detailed rationing scheme, but one involving carefully balanced organisation to arrange for the distribution of supplies. A large part of this organisation is automatically dislocated every time a shopping centre becomes badly damaged, and some means of readily maintaining the distribution of local supplies is essential.

CONSTRUCTIONAL POSSIBILITIES

All war-time measures, whether involving essential activities or not, must be carried out with the maximum economy. A number of alternative means for providing the structural fabric necessary do exist, but some more than others will be applicable to local conditions.

Three fundamental methods of construction would seem to offer the necessary alternatives: The alteration of existing structures; the use of *in situ* forms of construction; and the application of prefabrication techniques. The considerations involved in these instances will be discussed in a later article, but the main principles are outlined below as far as they apply to a general understanding of the problem.

ALTERATIONS.—Fundamentally—given sufficient ingenuity and energy—almost any kind of structure may be converted to form a tolerably efficient shop. However, while alteration might economise in some types of material, it is certainly unlikely that a series of alteration schemes

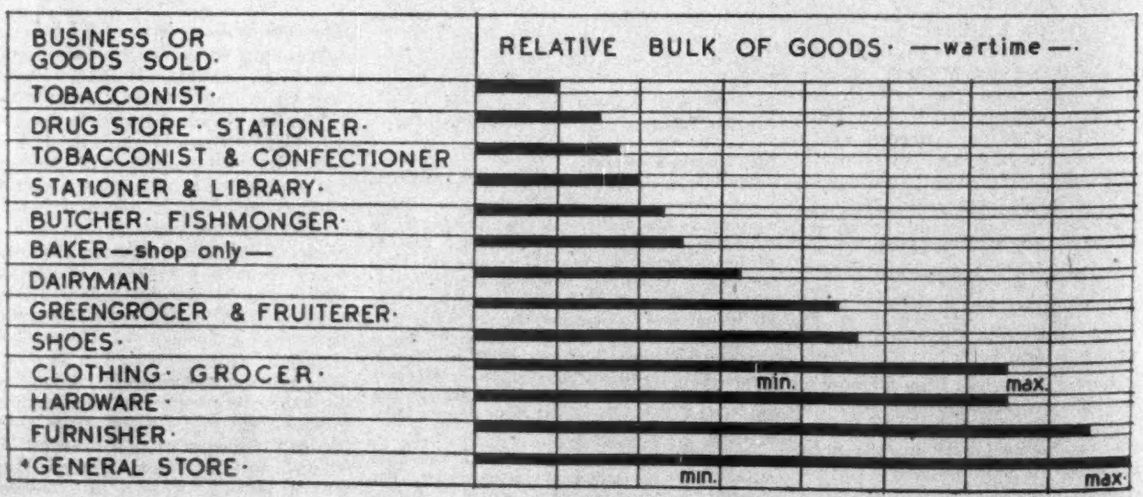


DIAGRAM 1

would be more economical in labour expenditure than an equally intelligent prefabrication scheme.

Furthermore, the materials required for rapid and effective conversion are, in many instances, those which it is difficult to obtain under standardised types of new structure which would employ only freely obtainable material.

The last factor which would make it seem unlikely that extensive alteration schemes would be adopted is the fact that locality plays an important part in the efficiency of a shop, and if the original building is destroyed it may not always be possible to find suitable accommodation in the neighbourhood. Further, the erection of temporary premises on the actual site of the destroyed building would be likely to prevent legal complications arising from taking other accommodation.

IN SITU CONSTRUCTION.—Traditional forms of *in situ* construction are likely to be both expensive and difficult to organise where many small buildings spread over considerable areas are required. Satisfactory *in situ* techniques would be likely to be those based upon the use of standardised shuttering or building jigs, complete sets of erection equipment being moved from site to site. A particular advantage of this form of construction might be the use of the rubble and debris available in considerable quantities in raided areas.

PREFABRICATION.—Where suitable materials of the lighter kind are available, there is much to be gained from the use of pre-fabrication. For the small types of structure under consideration it should not be difficult to evolve a suitable production organisation.

With heavier forms of structural fabric the limitations of economic transport are likely to encourage the development of systems involving local centres of construction, constituting what in effect would be more or less a site-pre-fabrication system.*

TEMPORARY SHOPS

The type of building to be replaced considerably affects the practicability of employing one form of construction or another. Generally speaking, new structures to replace any other than the smaller types of damaged structure must be considered out of the question. Even so, limiting the field to these smaller structures, there is considerable variation in what may or may not be practicable.

The provision of temporary shopping facilities is without question most important, and considerations affecting these will therefore be discussed first.

The practicability of producing economically suitable provisional shop premises is largely governed by the general type of commodity to be sold and in particular its bulk. Diagram 1 given below represents an attempt so to classify shop types that some general indication of the bulk-ratio of their goods may be seen, and that the relative practicability of producing temporary premises for various types may be assessed. Naturally, one is primarily concerned with aspects affecting minima, since necessity and that alone is relevant.

Intelligent standardisation must be the basis of any scheme involving new constructions, and since for the reasons discussed above, extensive adaptation of existing buildings is unlikely, the classification of business premises into a series of basic types (as few as possible) capable of easy standardisation is an important step towards the solution of the problem.

In Diagram 2, on this page, an attempt has been made to classify shop types into single and double-cell units, variously arranged so that each shall provide suitable accommodation for as many different types of trade as possible.

This does not suggest that a large proportion of the structural elements will not be interchangeable, but refers rather to the internal layout basis required by each trade.

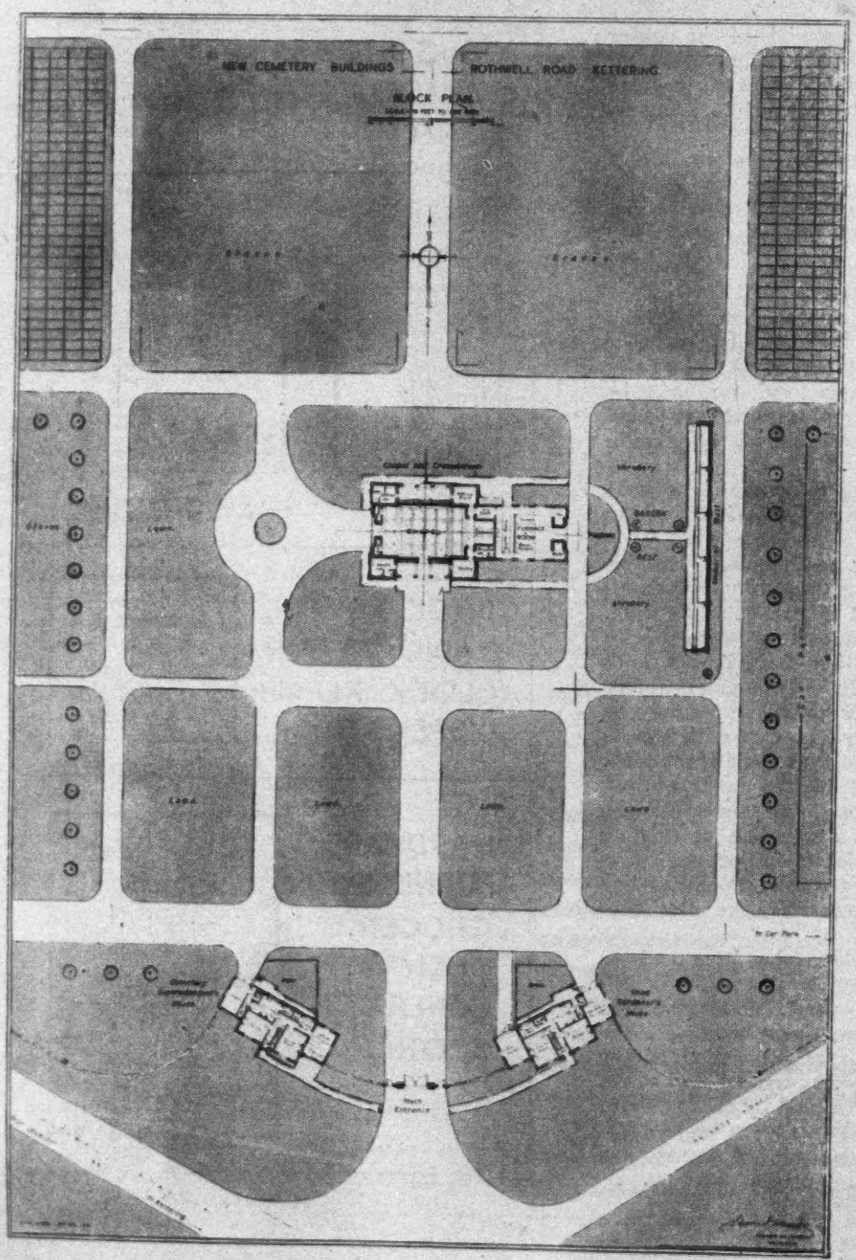
In the next article it is proposed to discuss these basic shop types in detail, and to examine to what extent they may be standardised for economical and rapid erection.

(To be continued.)

*W.T.B.P.6. *The Builder*, December 15, 1939.

DIAGRAM 2.

ENTRANCE GATES AND STAFF HOUSES. Below: LAYOUT.



CHAPEL AND CREMATORIUM, KETTERING

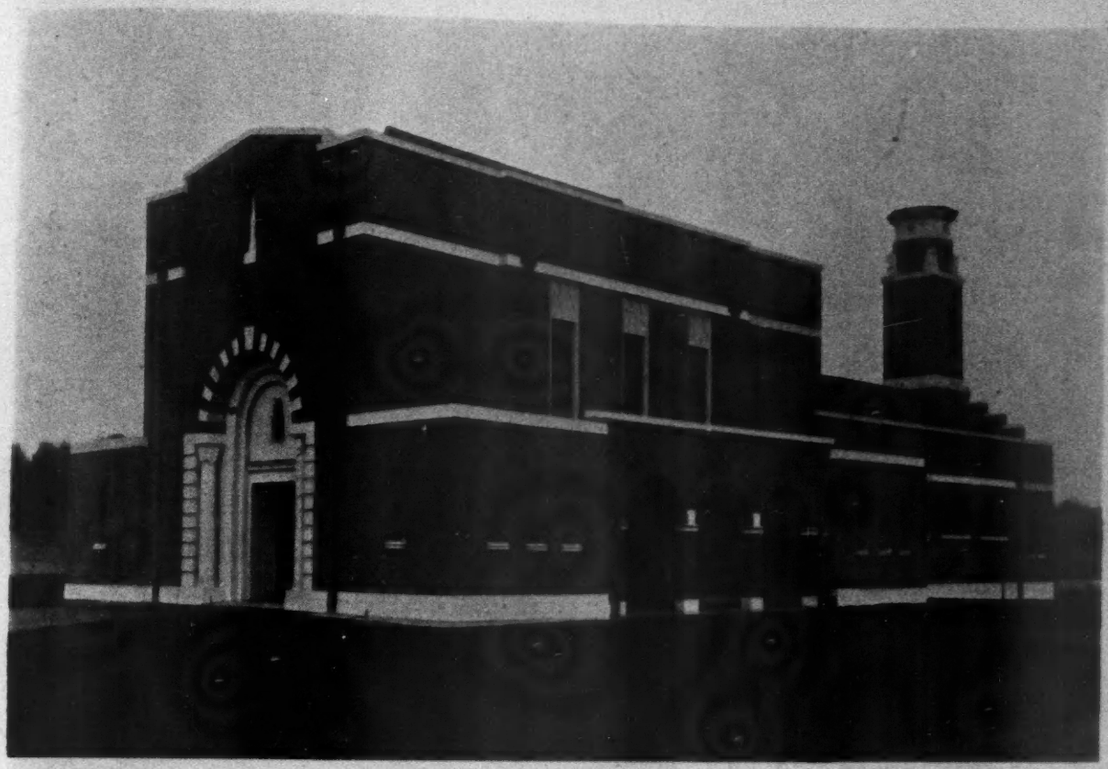
LT.-COL. JAMES P. HAUGH, F.S.I., BOROUGH SURVEYOR.

MR. C. GINGELL, A.R.I.B.A., CHIEF ARCHITECTURAL ASSISTANT.

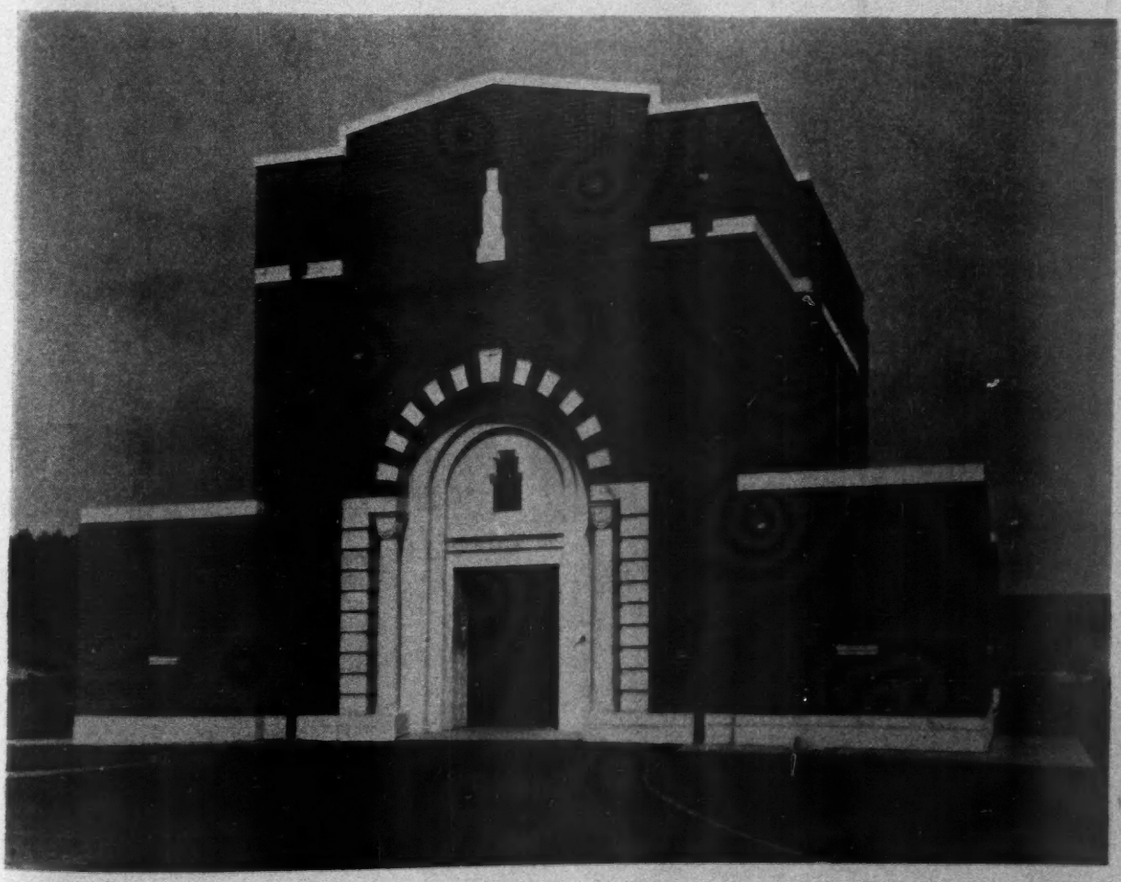
SITE.—The new cemetery, in which the chapel and crematorium building is situated, occupies a site on high ground in pleasant and open surroundings, including a copse of fir trees along the northern boundary. The approach roadway leads from the main road (A.6) to Leicester, at its junction with the Gipsy-lane by-pass to the Northampton road. Wide lawns, which flank the approach road, provide a spacious foreground to the building, which is for the borough of Kettering.

PLAN.—Whilst adopting a simple form of plan, consideration was given to its dual use as a chapel and a crematorium. The catafalque is screened by curtains during interment services, but the recess remains a feature of the east end of the chapel for either type of service. The general arrangement of the various units is based on the simplest method of crematoria administration.

CONSTRUCTION.—Foundations and site concrete are steel-reinforced. Brick walls have 2-in. cavities above ground line. Steel trusses carry purlins and rafters for tile roofs, and precast concrete beams flat roofs are covered with three-ply felt and macadam. The tower, masking the furnace flue, is about 45 ft. high and roofed with copper.



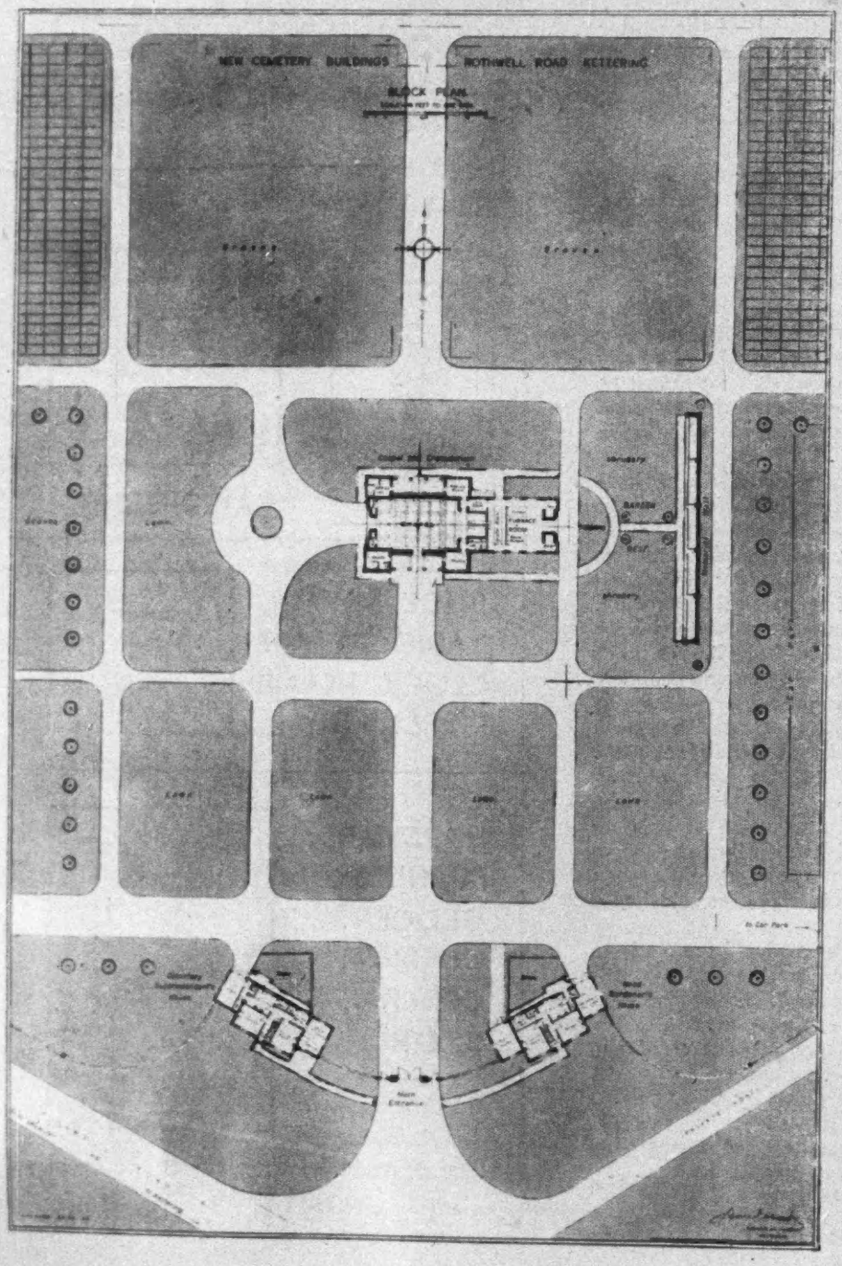
VIEW FROM SOUTH-WEST.



MAIN ENTRANCE TO CHAPEL.

CHAPEL AND CREMATORIUM, KETTERING. LT.-COL. JAMES P. HAUGH, F.S.I., BOROUGH SURVEYOR.

ENTRANCE GATES AND STAFF HOUSES. Below: LAYOUT.



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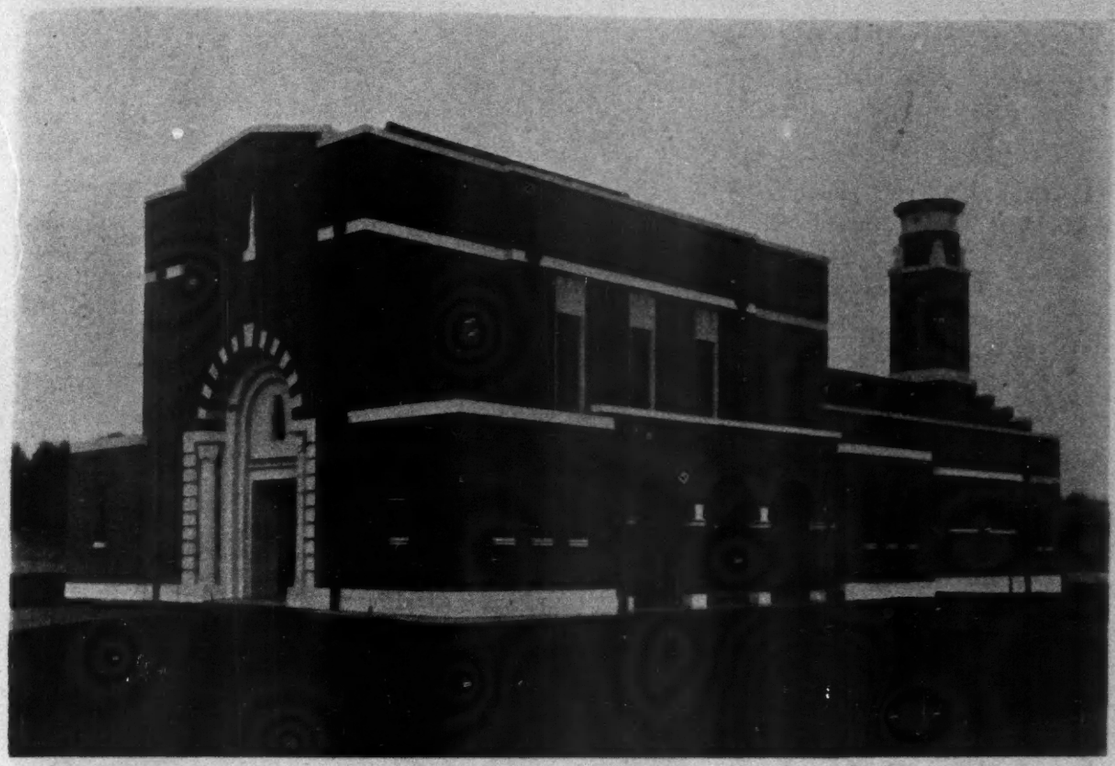


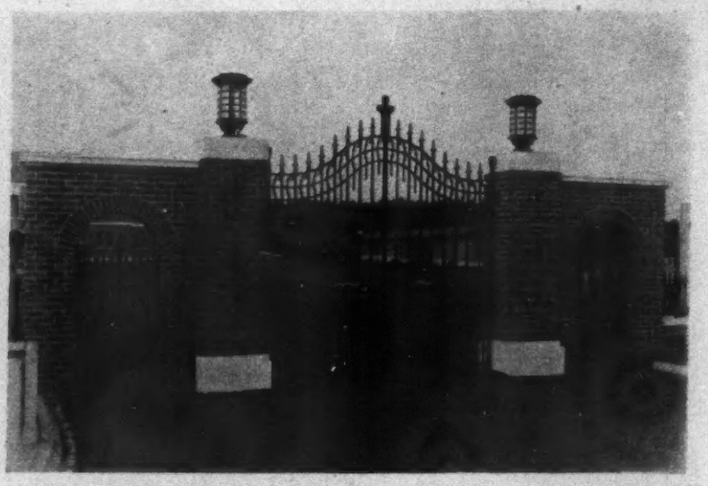
VIEW FROM SOUTH-WEST.

MAIN ENTRANCE TO CHAPEL.

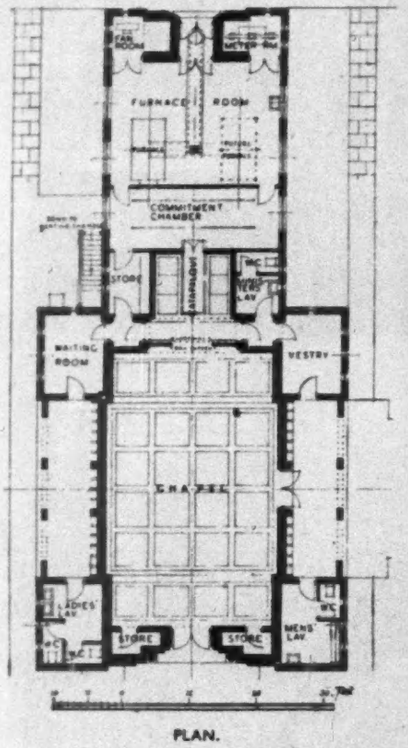
CHAPEL AND CREMATORIUM, KETTERING. LT.-COL. JAMES P. HAUGH, F.S.I., BOROUGH SURVEYOR.

CHAPEL AND CREMATORIUM, KETTERING.

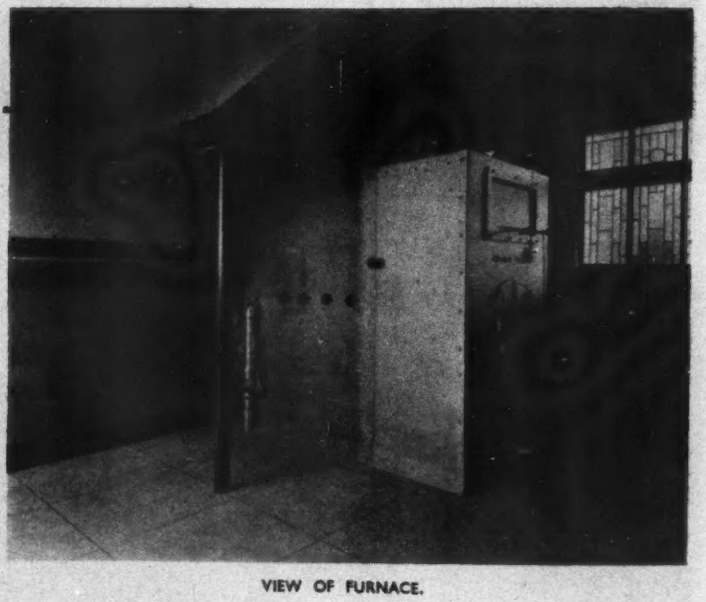
LT.-COL. JAMES P. HAUGH, F.S.I., BOROUGH SURVEYOR.



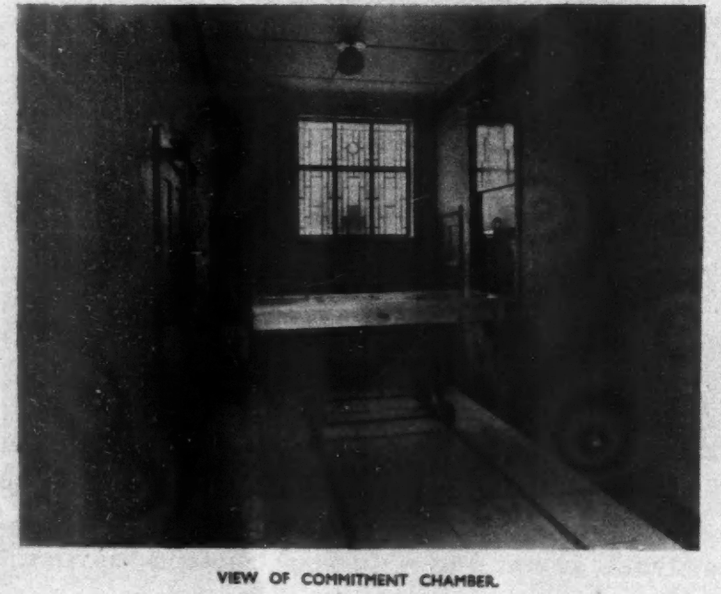
DETAIL OF ENTRANCE GATES.



PLAN.



VIEW OF FURNACE.



VIEW OF COMMITMENT CHAMBER.

Niches are formed along inner walls of colonnades, with stone divisions and bronze facing plates for inscriptions.

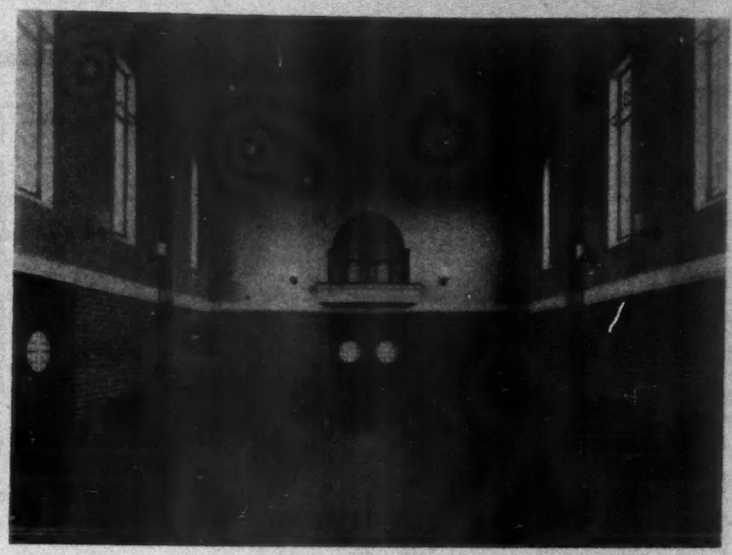
EXTERNAL FINISHES.—Facings are of 2½ in. "Bedford grey" bricks with cream joints. Dressings are of reconstructed Portland stone. Pitched roofs are covered with hand-made dun-coloured tiles. All steel-framed windows are lead glazed.

INTERNAL FINISHES.—Chapel walls are finished with a high brick plinth, and the plaster work over is decorated a light buff colour. Walls of commitment chamber and furnace room have mottled glazed tiles. Other walls are plastered, except lavatories, which are gloss-painted brickwork. Chapel, waiting room and vestry have "Granwood" blocks, all other floors being terrazzo finished, panelled in small squares with ebonite strips. Coffered ceilings of chapel and catafalque recess are of fibrous plaster painted cream, with pale-blue

panels. Other ceilings are of patent board, except to concrete flat roofs, which are plastered. Joinery, carved oak screen, catafalque surround and furniture are of oak. Carpets and curtains are deep-blue colour.

SERVICES.—Heating is by low-pressure hot-water system with "vectair" radiators. Electric lighting is installed sufficient to provide adequate light on dull winter days. Loudspeakers are provided behind a grille over the west entrance doorway, and sound-reproducing apparatus, situated in the vestry, provides faithful reproductions of organ music. The approximate cost of the work was £8,600 for the cemetery chapel, crematorium and memorial wall, and £3,200 for the superintendent's and head gardener's houses and stores, entrance gates and wing walls.

The Borough of Kettering Works Department was responsible for the general construction.



INTERIOR OF CHAPEL, LOOKING TOWARDS ENTRANCE.

Sub-contractors and suppliers include: B.R.C. Co., Ltd., steel reinforcement; London Brick Co., Ltd., commons; Proctor & Lavender, facing bricks; Adamite Co., Ltd., "Atlas White" pointing material; Excelsior Stone Co., reconstructed Portland stone and pavings; Siegwart Flooring Co., concrete roof beams; Felts and Dampcourses, Ltd., flat roof covering; Henry Hope & Sons, windows, gearing, leaded glazing, rainwater heads; Kingsbury Collieries, Ltd., roofing tiles; W. J. Furse & Co., Ltd., lightning conductor; Fredk. Braby & Co., Ltd., copper roofing; Ewart & Son, Ltd., roof vent; H. T. Billson, steel roof trusses; Basilio Scandolo & Co., terrazzo; Granwood Flooring Co., floor blocks; Leeds Fireclay Co., wall tiling; British Plaster Board, Ltd., "Thistle" plaster; Allied Guilds, Ltd., fibrous plaster ceilings; Patent Impermeable Millboard Co., Ltd., "Sundeala" ceiling boards; H. P. Hodge, Ltd., rainwater goods; Montague Wallpaper Co., "Johnson's" fireclay sanitary goods; Kettering Co-operative Works Department, joinery; Fredk. Sage & Co., oak screen, catafalque surround, bronze and ornamental ironwork; Wing & Webb, ironmongery; Docker Brothers, "Muroleum" paint; S. Booth Horrocks & Sons, Ltd., heating installation; Kettering Corporation Electricity Department, lighting; Kettering Gas Co., gas mains; Jeffery, Sons & Co., Ltd., furniture; Ernest Woodcock, Ltd., carpets, curtains and rubber hassocks; Paul Taylor, E.M.I. amplifiers and speakers; and John F. Askam, crematorium furnace and accessories.

INTERIOR OF CHAPEL, LOOKING TOWARDS CATAFALQUE.

CHAPEL AND CREMATORIUM, KETTERING. LIEUT.-COL. JAMES P. HAUGH, F.S.I., BOROUGH SURVEYOR.

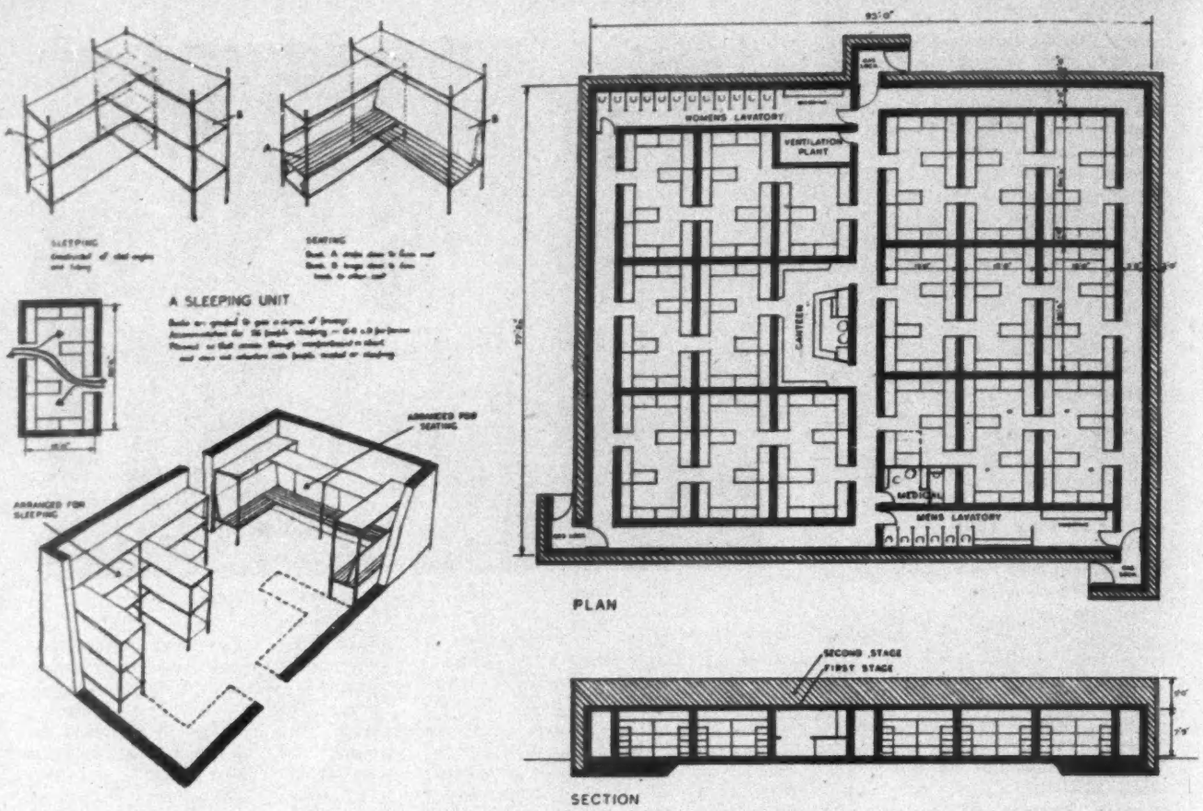


FIG. 1.—AIR RAID SHELTER FOR SLEEPING.

A.A.S.T.A. DESIGNS FOR AIR RAID SHELTERS.

THE designs shown on this page are (Fig. 1) for a shelter for sleeping and (Fig. 2) for a school shelter, of which each unit can be used during the day by a class of 40 children and by night as sleeping accommodation for 17 members of the public. Fuller details of these schemes will be found on the page facing, and following are some notes on construction. The design shown in Fig. 1 would be executed at the first stage in reinforced concrete, with walls and roof 12 in. and 8 in. thick respectively. At the second stage the shelter can be strengthened to resist any size of bomb; the drawings show the roof reinforced to 5 ft. thick, sufficient to resist 500-lb. bombs. The shelter would hold 588 persons sleeping.

The design shown in Fig. 2 would at first stage be carried out in reinforced concrete, with walls and roof 12 in. and 6 in. thick respectively. The drawings at the right-hand side of the diagram show it subsequently strengthened to resist 500-lb. bombs. Cost, if a number of shelters were built, is estimated at £8 5s. per child at first stage, and £12 10s. at second stage.

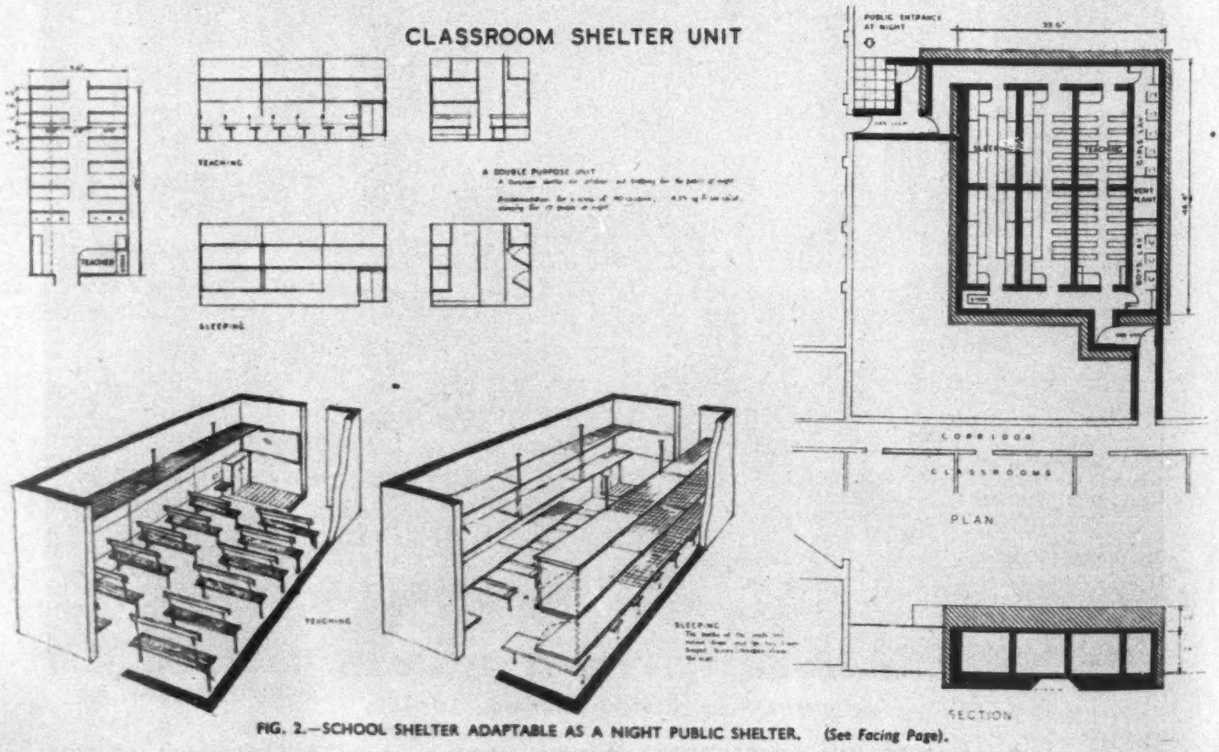


FIG. 2.—SCHOOL SHELTER ADAPTABLE AS A NIGHT PUBLIC SHELTER. (See Facing Page).

AIR RAID SHELTERS

A.A.S.T.A. TWO-STAGE SHELTERS.

THE A.R.P. Committee of the Association of Architects, Surveyors and Technical Assistants is now holding, at 113, High Holborn, an exhibition of new designs for air raid shelters—for sleeping and for schools—and claims that these show solutions to problems which have not yet been attempted officially. There are four drawings in all (on sale, price 1s. 6d. each, post free) and from these we reproduce (p. 204) certain portions which make the designs sufficiently clear.

Fig. 1 illustrates a shelter for sleeping, and is intended to show how by proper design of a shelter compartment it is possible to effect great economies and reduce the risk of infection. The heads of sleepers are some 6 ft. apart horizontally and the division into bays gives a degree of privacy. The floor area per person averages 6 ft. 8 in. square. The drawing also shows how these compartments can be combined—in this instance to form a shelter for 588 people. It has artificial ventilation, a canteen, a first-aid room, lavatories, and washing facilities. In its "first stage" this shelter would cost about £11 per head and in the "second stage" approximately £18 10s.

Fig. 2, illustrating a school shelter, shows a shelter unit which can be used in the daytime by a class of 40 children, so that they can thus continue their lessons in safety, while at night it can be used by the public as a sleeping shelter.

The drawing also shows six units combined to form a school shelter for six classes of 40 children each or for 102 members of the public sleeping at night. It has artificial ventilation and protected access from the main school building. The cost in the "first stage" is £8 5s. per child and in the "second stage" about £12 10s.

The "two-stage" principle—the most important feature of the "Haldane" shelter—has been retained in these designs. The "first stage" complies with the Government Code but, owing partly to the protective surrounding corridor, is much stronger than the brick surface shelter. In the "second stage," by thickening the walls and roof, the shelter can be made, it is claimed, to resist a direct hit by a 500-lb. bomb.

Artificial ventilation has been incorporated because it reduces the risk of epidemics, greatly increases comfort, and is the only sure safeguard against gas.

The flexible system of planning allows the shelters to be made in any economical size.

INDOOR SHELTERS.

MR. HERBERT MORRISON stated in the House of Commons on February 11 that a satisfactory design for an air-raid shelter within the home had been achieved, and that priority in distribution would be given to a few selected areas. The income limit for free issue, which in the case of the Anderson shelter was £250, had been increased to £350.

Mr. Morrison said that the course of events in the past few months had given strong emphasis to the advantages of shelter within the home. It achieved not only dispersal but warmth and dryness, and it avoided the discomfort of leaving home at night and the dislocation of family life. Experience of the effect of bombing had shown that houses afforded more protection than was at one time supposed, and that the risk of installing indoor shelters was less than was formerly believed.

The new indoor shelter, illustrated on this page, is built of steel, and is the height and shape of a table, 6 ft. 6 in. long and 4 ft. wide. The top is a stout sheet of steel; the floor is sprung to make a comfortable base for a mattress. The sides, of steel mesh, are easily detachable, and when they are removed the top of the structure can be used as a table. The shelter will be supplied in sections, for assembly by the householders themselves in accordance with simple instructions. The new design is not proof against a direct hit, but is excellent cover from the débris of a two- or three-storeyed house. The shelter has been tested by dropping a heavy weight on it and also by a swinging blow like that of a collapsing floor.

PUBLIC SHELTERS.

THE following resolution was passed *nem. con.* at a conference of London Borough Councillors and Chief Administrative Officers on February 2, convened by the Association of Architects, Surveyors and Technical Assistants and the National A.R.P. Co-ordinating Committee :—

"This meeting of councillors and chief administrative officers of local authorities, coming from some 30 councils in the London Area, expresses its disquiet at the effects of Government A.R.P. policy on the provision of measures for safety, health and welfare of the people of the London area. It expresses its views that much higher standards of safety, health and welfare are both necessary and practicable, and is therefore of opinion—

"(*a*) that in the densely populated areas large sub-divided shelters or, where practicable, tunnels, containing all the amenities essential to maintain health and a reasonable standard of comfort should be provided, realising that only by such means is it practicable to raise all such standards, and to give satisfactory protection against gas attack;

"(*b*) that all future shelters in densely populated areas should be so designed as to allow of subsequent strengthening sufficient to render them proof at least against direct hits of medium-calibre bombs.

"It further expresses its views that the system of Regional Commissioners, as at present constituted, requires local authorities to operate policies with which they may disagree, and it therefore expresses its opinion that such a system should be so reconstituted as to allow to the local authorities both adequate representation, and the right to exercise initiative."

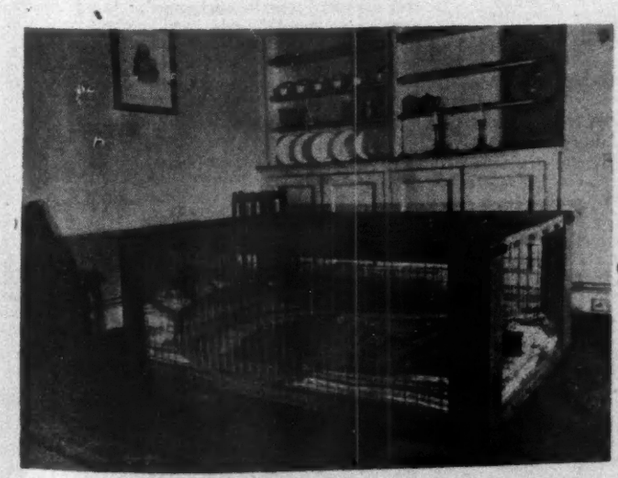
MR. KEYNES ON WAR DAMAGE

"FINANCE is not the bogey it used to be," said MR. J. M. KEYNES, the economist, at a meeting at the Housing Centre on February 4. In post-war reconstruction, he added, it was the physical things that would matter most—our man-power and our will-power and our capacity to have the necessary materials.

Mr. Keynes said that the war did not in itself greatly diminish the national wealth. "If we could turn cottages into tanks we should do it. But we can't." The greater part of the war effort "has to be currently produced."

He thought the injuries caused by submarines and aeroplanes greatly exaggerated. Even the damage from the air to housing was greatly exaggerated by everybody because it struck so much people's imagination. "All the damage hitherto done scarcely exceeds, or even reaches, a full year's building capacity in this country."

This in effect meant that the value of the present built property was what it was in 1938. Only if the damage went a great deal farther—four or five or six times—could the matter become serious. In London a great deal of space was being wastefully employed by decrepit property. The rebuilding of London would have to be considered "in fairly large units," and a five- or ten-year programme should be established which would go far beyond the mere repair of damage.



THE MINISTRY OF HOME SECURITY INDOOR AIR RAID SHELTER.

The official design for an Indoor Air Raid Shelter is illustrated above. The photograph on the left shows the shelter in use; by detaching the mesh sides, it can be employed as a table. The photograph on the right shows the shelter after being tested (*a*) by dropping a 350-lb. block of concrete from a height of 6-ft. above the top and (*b*) by dropping a floor, weighing 1,800 lb. and pivoted on one side, 6-ft. 6-in. on to one edge of the shelter.

WHAT OF THE FUTURE?

By C. M. A.

V.—RECONSTRUCTION.

When a large area of a town or city has been destroyed or mutilated an opportunity for improvement arises when the time for rebuilding comes. It is then not only a matter of concern to the numerous private owners involved, but is also one of public policy, and the rebuilding cries out for the private interests to be reconciled to the common good. When the Great Fire of London laid waste the City, Wren saw in the occasion a golden opportunity for that to be done, and he produced his plan. But the ramifications of private interests were too strong for him, and the new London arose from its ashes on the same old tortuous and inconvenient lines.

Had Wren been entrusted with this work he would no doubt have carried it through himself, and it would have had the unity of design which such a single control allows. Superficially, it would appear that if we are to take this present opportunity, the ideal result would be to appoint one architect for the scheme, or at any rate one man to be the dictator of the design of all street façades.

In actual fact the cases are not parallel, mainly on account of the different conditions now maintaining. Wren's task was simplified because he had behind him a true-minded team of craftsmen who worked in harmony with his artistic direction. The working plans of those days are very incomplete, but are sufficient to show that the direction given to the craftsmen was very light, and embodied but a small fraction of the detailed work which is now necessary to ensure that results shall be as the master artist determines. No single architect could possibly carry out such a task as now faces us, and we can put that solution out of our minds forthwith.

We have also had various experiments where a number of architects have handled the individual jobs of a street or estate with one eminent man as a consultant in respect of the visible appearance of the various jobs from the streets. That method, too, has not been very successful, and the conflict of ideas between the creator of the entity of the building and those of the man who has dictated its facial expression is often clearly in evidence and not to the advantage of the architectural result.

Let us avoid on the one hand attempting the impossible, and, on the other, buying the outer shell of unified design at the cost of wasted talent. Let us remember that, whereas Wren and his pupils were supreme in their day, there is no outstanding figure now to whom we can safely turn to take charge of all our interests.

The community is entitled to settle the lines of the plan, in the sense of determining that the people and traffic shall not be committed to a tortuous route through the cleared areas just because Mr. Smith's land has a kink in it, or that it shall not be denied the enjoyment of a possible vista on account of an adjustable irregularity in Mr. Jones's property, or that a fine geometrical sweep shall not be crippled to dodge Mr. Robinson's frontage. Those are matters which could be and ought to be settled on very broad planning lines. With the proper technical reinforcement it is a suitable task for a Government Ministry to administer.

The general control should also go beyond the planning stage in map form, and there is an obvious need for a general mass design of composition. No amount of good individual architecture will suffice if the whole composition is wrong. We have seen that fine group with St. Paul's as the centre piece much prejudiced by lofty buildings of very good individual character. This surely is the place for the individual master architect to enter, to shape the block form of the buildings which are to be permitted in the new City. From that the officials should not find it difficult to devise the necessary restrictions within which no designer need mind working, *i.e.*, the placing of terminal buildings, restrictions as to height in various positions, a limited stress on repetition, materials to be used, etc., building lines, and so forth.

Beyond that lightly restrictive control the fullest use ought to be made of the hidden talent such an opportunity will inspire, and the individual touch will enrich rather than confuse if it is handled in the right way.

The group system which has been suggested in another connection might be applied with advantage to the task. If streets and civic places could be allotted to bands of kindred spirits under a sympathetic senior, that should ensure a harmony of aim without any stifling of individual talent.

What is to be avoided is a widespread conscription of architectural talent within the restrictive atmosphere of a Government Department, and working by some automatic process to hard-and-fast predetermined lines. That would be the way to ensure that this great opportunity shall bring forth a stillborn offspring. We do not want to see a number of time-servers grinding their way through one big job after another, but we do want to visualise a team of artists delighting in the huge canvases which the disaster of the moment may offer when time has changed the scene.

The danger that affairs may be so committed to the wrong course during the preoccupations of war-making is a very real one, and it will need all the vigilance of the profession to ensure that the bait of safe jobs for all does not lull the artistic conscience to sleep.

(To be concluded.)

(Continued from next column.)

ditioning of the ancient gateway of the fortifications; (*g*) a new intake and a new regulator for the Nagayel canal; (*h*) the new Rosetta barrage, with its abutment and a navigation lock; (*j*) a new diversion for the Behera canal, with a regulator and a navigation lock; (*k*) about four kilometres of road, including two bridges over small canals: (*l*) sluice-gates, lock-gates, swing-bridges, operating machinery, sluice-valves, and various fittings.

Most of the materials, with the exception of iron and steelwork, were obtained in Egypt. Two large workyards were established by the contractors, and a subsidiary yard for the storage of materials. Work was commenced in January, 1937, and was substantially completed by the contract date, December 15, 1939; the barrages were used for regulation in February, 1940.

The cost of the works covered by the contract was approximately £E2,405,000, including £E386,000 for the mechanical equipment.

SOCIETIES & INSTITUTIONS

VISIT TO THE R.I.B.A. BUILDING.

By permission of the Secretary (Sir Ian MacAlister, M.A.) the R.I.B.A. building in Portland-place, W.1, was visited on Saturday, February 8, by a party of the West Wickham Society (a record number for wartime—22), incorporating some London Fellowship members. They were headed by Miss I. L. Watson, secretary, and at their request were conducted by Mr. H. V. Molesworth Roberts, of the library staff. The exterior of the building was first examined, with its indication of the main lines of the plan, and its columnar and relief sculptures. In the Aston Webb Room on the second floor a short introductory lecture was given on the history of the architectural profession, beginning with the mediæval masons' guilds (Henry of Westminster and others, master masons of Henry III's Westminster Abbey, did not, said the lecturer, belong to the R.I.B.A. !), and proceeding to the architectural clubs and societies from 1791 onwards, and then to that of the R.I.B.A. itself, from its foundation in 1834. Briggs's "Architect in History," Gotch's "Growth of the R.I.B.A.," and the Historical Sketch in the R.I.B.A. "Kalendar," were exhibited to enlarge on these. The competition in 1932 (the original published designs in which were shown) and the revision of the design and ultimate erection and opening in 1934 of the actual building were described, as were the main principles of planning and design. The change in aspect internally due to war conditions was emphasised. A collection was taken for the Architects' Benevolent Society. The party then ascended to the roof and studied the apartments on each floor in detail, including the original library on the third and fourth floors. The beautiful tall proportions of the first-floor windows, the character of the detail and the equipment were especially admired. Thanks were expressed to the Secretary for his courtesy in affording ingress, and to the conductor.

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS.

In compliance with a change in the Association's by-laws recently approved by the general body of membership of the Incorporated Association of Architects and Surveyors, corporate members of that Association will now use the description "Corporate Architect" or "Corporate Surveyor" in lieu of the previous description "Incorporated Architect" or "Incorporated Surveyor." The designatory letters "F.I.A.A." or "A.I.A.A." Fellow or Associate (Surveyors' Section) and "L.M.I.A.A.," Licentiate Architect Member, remain unchanged. An architect member may not be admitted to the Quantity Surveyors' Section of the Association, nor may a quantity surveyor be admitted to the Architects' Section, but a member who is qualified both as an architect and a land surveyor (or a building surveyor, or a municipal surveyor) may, in approved cases, use the letters "F.I.A.A. and S." or "A.I.A.A. and S." denoting that he is a Fellow or Associate Architect and Surveyor member.

INSTITUTION OF CIVIL ENGINEERS.

"The Mohammad Aly Barrages, Egypt."

Mr. Alec George Vaughan-Lee, M.Inst.C.E., in a paper to this Institution recently, first reviewed the chequered history of the Delta barrages, across the Damietta and Rosetta branches at the southern apex of the Nile delta. The principal works, each of which was described in detail, comprised (*a*) reconditioning of the Tewfiki regulator and lock; (*b*) the new Damietta barrage and navigation lock; (*c*) an abutment at the west end of the Damietta barrage and a retaining abutment in connection with the old Damietta barrage; (*d*) an hydraulic research laboratory; (*e*) a swing-bridge across the Menoufia canal; (*f*) recon-

(Continued at foot of column 2.)

THE PLACING OF CONTRACTS

A UNIFIED SYSTEM FOR THE BUILDING AND CIVIL ENGINEERING TRADES

By I.B.A.

THE critical period through which the country is now passing is bringing more fully in view defects in the present system of placing contracts and orders for building and civil engineering works. The methods that are at present in operation are suitable only for a scale of production and requirements that bears no relationship to the state of affairs and the volume of work that actually exists to-day.

There is at the present time no single method of dealing with the problem. In theory all contracts are supposed to be the subject of competitive tender based on either drawings and specifications or on bills showing quantities of materials and labour. The contractor submitting the lowest estimate is expected to receive the instructions to carry out the work.

In actual fact, orders are placed by all sorts of methods. In cases of special urgency or under conditions requiring special skill the contract may be given without estimate to a selected or convenient contractor with or without any agreement as to rate of profit to be paid.

Another method is to select a contractor and agree with him a priced bill of quantities as a result of discussion between clients and contractors' surveyors.

Again, clients' surveyors may arrive at a cost, and an order may be placed with a contractor on the understanding that on completion he be allowed this cost plus any sum the work has actually cost over this amount plus an agreed rate of profit. In the event of the contractor working under the estimated cost he may be allowed a tempting percentage of such saving.

Again, the cost of the work may be estimated and contractors be asked to state at what rate of profit they will undertake the work; the order being placed with the contractor offering to carry out the work at the lowest rate of profit.

There are still other methods, but these are quoted to show the type of schemes in operation.

These same methods, or variations of them, are used in placing orders with sub-contractors. These sub-contracts are generally of the greatest importance, and may cost anything up to 75 per cent. or more of the total value of the contract, the percentage varying in accordance with the class of building and methods used.

The methods of placing the orders for the main and sub-contracts are varied in all sorts of combinations. It is seldom that one single method is used throughout for all sections of any one contract.

Therefore, although it may be assumed that all placing of contracts is carried out by competitive estimate, in actual fact it is nothing of the sort. Moreover, even when contracts are so settled, the variations that take place during the progress of the work make the original contract little more than a basis on which to settle the final value.

There do, however, exist, both on the directive side and the contracting side, huge organisations based on the assumption that the asking for, preparing of, and acceptance of estimates is an actual necessity. Contracting organisations also carry to greater or lesser degrees staffs to deal with the designing, selling and advertising of their particular products.

The sum total of all this means, in actual fact, delay and waste in every direction. It also leads to a maldistribution of building and engineering work. Certain firms may go on accepting orders with little prospect of completion in reasonable time, while others are left with little work and still have to maintain premises and staffs. Under present conditions the personal contacts between the directive side and representatives of contracting firms is one of the most vital factors in the settlement of contracts. The contacts exist in most cases because of convenience or of technical assistance that can be given by the representatives. Nevertheless, when the complete picture is viewed, this method cannot be defended, as it results in the maldistribution of contracts and work.

A Single System of Placing Contracts.

It is suggested that a single system of placing contracts be adopted based on the following recommendations :—

1. That a bill of quantities be prepared for such contracts based on drawings prepared by architects or engineers. That in these bills the insertion of lump-sum items to cover cost of sections of the work be abolished and that quantities of all materials and parts be scheduled.

2. That the country be divided into building areas—Divisional Employment Exchange areas might be suitable. All operative building and civil engineering firms within each area to be scheduled at an area office, possibly the Ministry of Labour Divisional Office.

3. That the work be allocated within the area to the various firms in rotation and in accordance with the size of the contract, *i.e.*, the large firms to have the large contracts and the lesser roughly in accordance with the size of the firm. Any adjustment necessary either in number or size of units would rapidly become apparent and would be made by combination or splitting up of existing business or by influx from other parts.

4. That all work actually done on the site be included in with and be part of the actual work carried out by the general contractor; the object of this is to prevent the drafting of men from the specialists' or sub-contractors' headquarters in order to fix or fit the particular products they deal in. This does not represent so drastic a change as might at first be thought; most sub-contractors who do their own fixing keep special staffs of men for this purpose, and they would be employed direct by the builder instead of by the sub-contractor.

5. That so far as the sub-contractors or specialists are concerned, their products should be completely standardised so far as possible; this condition of affairs actually largely exists, windows, sanitary fittings, bricks, tiles, pipes, cables, electrical and heating parts are all practically to size, the slight differences of design being of little account. Engineers and architects should work strictly to these standard sizes.

5. These firms should also be scheduled and instructions given by the Government that they should manufacture for stock as rapidly as possible. These accumulated stocks should be delivered to common pools at convenient centres in the building areas and drawn upon as and when required. All existing methods of taking orders for and providing a particular contract should be stopped. At the inception of the scheme it will be necessary to manufacture for known demands, but once stocks have been accumulated the replenishing of these stocks in the pools is all that need be considered. It is not suggested that the various works should cater only for the area in which they are domiciled; their products only should be stored in the various pools within the areas —this for the purpose of getting quick delivery as, and only as, the materials are required. The only item which cannot be made subject to this treatment is the fabrication of constructional steel and bent-bar work for reinforced concrete, but even in these cases the rolled sections can be stored as other items.

7. That building plant and equipment, such as grading and digging machines, mixers, lorries, scaffolding, etc., be manufactured or imported and deposited in pools and issued to the various constructors in accordance with their needs.

The adoption of the above recommendations will increase the work of the quantity surveyors, architects and engineers and their staffs, for the reason that on them will fall the task of billing and scheduling for quantities all the various items required. But against this a far larger amount of technical and clerical labour will be released, partly to supply this extra demand, but more largely to take part in actual production instead of in estimating, selling and accounting.

It is not proposed to make any recommendations as to the financial aspect of the proposals. It need only be said that so far as actual production is concerned the scheme is self-contained. If it is convenient or necessary to price the bills or calculate a cost on completion and add a profit, such calculations can be made.

It is, of course, understood that such cost would include the wages of all engaged, from architects to office boys and from managing directors to tea-boys, and would include a reasonable rate of interest on the value of land and buildings and equipment actually used in the fabrication of all materials required for the completion of the contracts. To summarise, the advantages of the scheme are :—

1. A single, well-defined system of placing contracts.
2. A clear understanding when the work starts of all materials required for completion.
3. Ample skilled staffs to prepare such information.
4. Ample skilled staffs whose whole time can be devoted to actual production.
5. A system of organisation which will show immediately defects and allow of their speedy adjustment.
6. The immediate putting in hand of work so soon as drawings and schedule are complete.
7. An absolutely fair deal for all interests, management and labour, involved in the carrying out of the work.
8. The accumulation of stocks of materials quite independent of immediate considerations, and a non-stop system of production of such stocks.
9. A prevention of all delays and hold-ups on jobs owing to "not being in contract."
10. A perfectly fair foundation on which to base the payment of any profit.

The Future of Building.

Speaking at the luncheon given by the Northern Architectural Students' Association to mark the conclusion of the annual conference (reported in a recent issue), the Sheriff of Hull (MR. R. G. TARRAN) said that to him building was architecture and architecture was building. Since the last war there had been great strides towards the amalgamation of these great forces which left their mark on earth for all time. "Nowadays," declared Mr. Tarran, "there is a different meeting ground for architects and builders than that before the last war. Yet I wonder whether it is moving in the right direction. Is the builder thinking too much about the profit he is going to make out of the contract and is the architect rather tending to commercialise his profession and only work for big fat fees? These are matters about which both builders and architects must be most careful."

Pembroke County Architect's Resignation.

The resignation of the Pembrokeshire County Architect, MR. OWAIN T. THOMAS, L.R.I.B.A., has been accepted by the Education Committee at Haverfordwest.

LABOUR IN WAR TIME

EFFECT OF OVERTIME ON BUILDING PRODUCTION

In view of the importance of the subject of fatigue among building tradesmen and labourers engaged on Government construction, the following extracts from a paper* by Mr. F. S. Snow, M.Inst.C.E., M.I.Struct.E., have a particular interest:

The author regards the organisation of labour on a job—and by this is meant everyone from the supervising resident engineer down to the night watchman—as an extremely important factor affecting the speedy completion of the work, for on the happiness of the men under one's control depends, very largely, the quality and quantity of the workmanship. In the past there was a tendency (which in recent years has happily disappeared amongst the best engineers) to disregard the human qualities, aspirations and needs of the workman coupled with neglect to provide effectively for his welfare in or on the works.

In previous letters the author has consistently advocated:—

(1) Instructing the men in the Home Office Acts with a view to preventing accidents.

(2) Encouraging social activities, such as concert parties and cinema shows, especially on sites away from towns where such facilities do not exist.

(3) Explaining to the men—either verbally or by progress schedules—the ultimate aim and object of the structure so that they take pride in their achievement.

The author knows that he is not alone in this view, for Mr. Kirkham, a member of the Institution and of the Lancashire and Cheshire Branch, has introduced into his own works in Manchester schemes providing for social amenities, education of apprentices, and a bonus scheme whereby everyone shares in the firm's prosperity, and he will be able to tell you of the all-round increase in output that such schemes engender in his staff.

* Read before the Institution of Structural Engineers, at Manchester, on January 4, 1939.

Frequently a client will require some portion of his work handed over to him at a much earlier date than originally promised, and in such circumstances he may be prepared to pay the extra cost of overtime or night work, but above a certain number of hours the men themselves do not wish to work more than the normal day, and certainly not on Saturday afternoon or Sunday. In consequence there is a falling off of production for which, quite rightly, the client should be called upon to pay.

For the past two years the author has been endeavouring to carry out some research with the idea of producing a set of average curves for each of the trades in which he was mainly interested, with the object of showing the effect on production of working continuous overtime (above the standard week), taking 12 hours a day for 7 days a week for 8 weeks as a maximum.

The author in this research has consulted many publications of the Medical Research Council, and whilst many of the investigations did not concern our particular industry, they did quite clearly prove the following points:

(*a*) That on repetitive processes 73.5 per cent. of the operatives became bored, causing a reduction in the rate of working of from 5 to 10 per cent.

(*b*) Boredom is less likely to arise when the form of activity is changed at suitable times or (1) when suitable rests are introduced within the spell of work; or (2) when the operatives are paid according to output and not for time worked; (3) when the operatives work in compact social groups; and (4) when the work is conceived of as a series of self-contained tasks rather than an interminable activity.

(*c*) Continual exposure to monotonous conditions causes adaptation to such conditions, so that work initially tedious becomes tolerated.—See S. Wyatt, M.Sc., M.Ed., and J. A. Fraser, M.A., on the *Effects of Monotony in Work*.

(*d*) Many changes are detrimental to output because of their interference with the swing of work.

(*e*) When the hours of work are reduced there may be no change in output for several weeks, then it begins to mount slowly and attains a steady value in equilibrium with the altered hours.—H. M. Vernon, M.D., *Speed of adaptation of output to altered hours of work* (Medical Research Council).

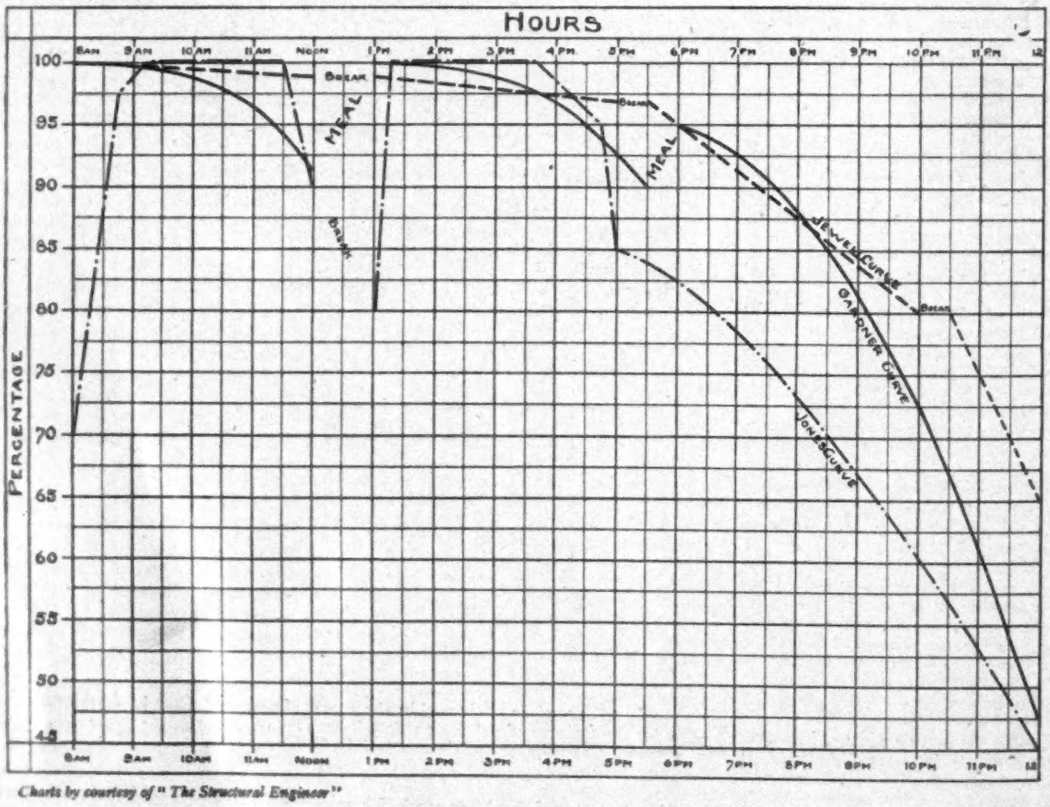
There is no doubt that long working hours lead to increased accidents, and Mr. Percy Black, a District Surveyor of eminence, in whose district Earl's Court Exhibition buildings were constructed, states that immediately on hearing that extended overtime is to be worked he increases his supervision to guard against rushed workmanship and accidents.

Figure 1 shows three curves based upon the observations on different types of structure by three competent independent superintendents, and they bear relation to the accountant's costs.

It will be noticed that in the "Jones" curve he reaches maximum production about one hour after commencement, and this is true, taking into account conditions of access which the other two have not. It will also be noted that, whereas the curves in general agree in direction, they vary in the maximum loss of production at midnight—Gardner 52½ per cent.; Jones 55 per cent.; Jewell 35 per cent. This may be due to the supervision or, alternatively, the type of work on the structure investigated.

In all cases output drops off towards meal breaks, and in all cases it will be noted that the loss of production is rapidly increased after five o'clock or immediately overtime commences.

Fig. 2 shows two curves independent of each other. The dotted curve (H. M. Vernon, M.D.) is related to the months given at the bottom and the units of work shown at the side. The curve is an average one and shows the variation between the output of 12-hour and 8-hour shifts for steel furnace workers. It can be seen that on changing over from 12- to 8-hour shifts, the increase in output is



Charts by courtesy of "The Structural Engineer"

FIG. 1.—CHART SHOWING PRODUCTION CURVES.

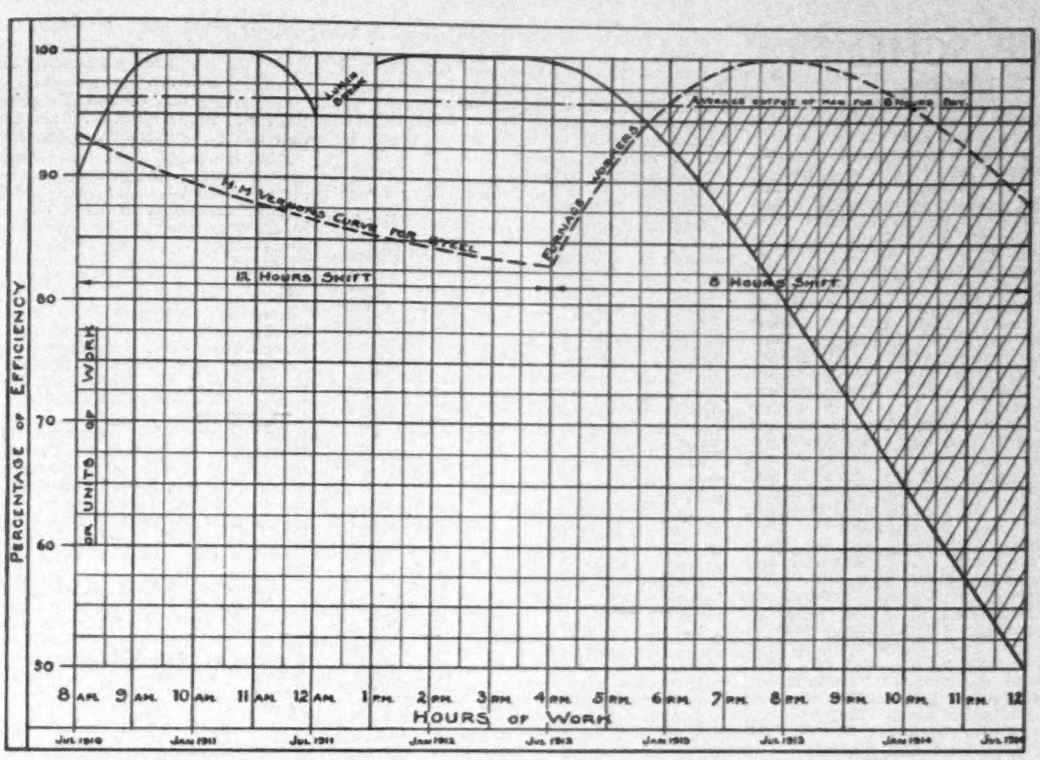

PERCENTAGE OF EFFICIENCY
100
90
80
70
60
50
8 HOURS SHIFT
12 HOURS SHIFT
8 HOURS SHIFT
8 AM 9 AM 10 AM 11 AM 12 AM 1 PM 2 PM 3 PM 4 PM 5 PM 6 PM 7 PM 8 PM 9 PM 10 PM 11 PM 12
HOURS OF WORK

FIG. 2.—CHART SHOWING VARIATIONS BETWEEN OUTPUT OF 8-HOUR AND 12-HOUR SHIFTS FOR STEELWORKERS.

considerable, which the author considers supports his views that extended work over and above the normal working time causes fatigue, which is detrimental to production, and that this loss of production can be shown by the average curve for all *Standard* Structural Conditions indicated by the fall lines and related to hours of work at the bottom and percentage of efficiency at the side.

It must be emphasised that the curve is for an average set of conditions only. The rate of efficiency can be maintained for a period by many inducements, such as a monetary reward or as occurred in the September crisis, when trades such as steel erectors, plasterers, bricklayers, carpenters, etc., took to digging trenches, and for the period the average excavated was three times the amount that would have been dug up by the trained navvy in the same time, under average normal conditions. Whether this rate would have been maintained it is impossible to tell, but the author is convinced that it would have increased under such stress until the task set had been completed.

It is the author's view that overtime in excess of two hours per day is uneconomic, both from the point of view of time and cost, and that when such circumstances arise a night gang should be resorted to.

In the event of this not being possible, and overtime being ordered, the client should be called upon to pay for the *loss of production* in addition to the cost of the overtime.

EMERGENCY INQUIRY BUREAU

Questions from readers arising out of War-time difficulties and recent Emergency legislation will be answered by a special staff of contributors. Questions, which should be addressed to the Editor, should be accompanied by a stamped addressed envelope.

Labour Conditions.

SIR,—*I should be glad of information and a ruling on labour conditions and operatives' rights under the Building Trade Regulations:*

(*a*) *Bricklayers engaged on reconstruction of damaged residential property, chimney-stacks, etc., say they are entitled to "dirty money." Should this claim be accepted? Are they entitled to "turn-in" the job if it is not congenial?*

(*b*) *How does the employer stand under the Restriction Act regarding mechanics, carpenters, bricklayers, plasterers, plumbers, and labourers? In these respective trades men leave our employ and obtain employment with other firms who pay over the rate and promise Saturday and Sunday work. I maintain the Act was made to protect the employer from this "baiting" of their staff.*

T. R. C.

(*a*) "Dirty money," payable in first instance for foul and dirty work—such as the repair, replacement or renewal of main sewers and main sewer manholes, foul and dirty work in chemical works, etc.—is not confined to the examples quoted in the rule, and may well be extended to include work of the type mentioned. But the operatives are not within their rights in claiming this money without the sanction of the Regional Joint Committee—in this case the London Master Builders' Association, to whom the case should be referred.

Craftsmen are entitled to turn a job in as they are working on an hourly basis and can give an hour's notice if they wish to leave.

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(*b*) With regard to the Restriction Act, if querist's work is Government or priority work he has certain safeguards. These are mentioned in the agreement between the Ministry of Labour and the employers and operatives. If his work is not of national importance, then, in general, he has no safeguard.

War Damage.

SIR,—*A point which has been brought to our notice regarding the value of property damaged by aerial action is, we feel, of far-reaching importance, and we shall be glad to know whether any official pronouncement has been made upon it.*

If property is damaged or completely demolished by enemy action, what is the value of that property for purposes of probate and assessment of death duties in view of the pronouncement in Parliament some time ago that the admission of a claim for compensation did not constitute a negotiable security?

As the Government have given no guarantee of payment of compensation and do not admit the creation of a negotiable security by admission of a claim for compensation, it would appear that for purposes of death duties only the value of the site can be assessed where the building has been completely demolished and in other cases of damage the value of the property as it stands at the time of the decease of the testator.

D. CONWAY.

A correspondent writes: The questions raise matters which, in the light of present knowledge anent war damage, are difficult to answer. For the purpose of paying estate duty, etc., property can, of course, be sold, mortgaged or terminably charged. The building upon the site usually enhances its value, but not necessarily. It sometimes happens that a site denuded of its building proves to be of greater value than with the building upon it; and it can be well imagined that this might apply to a site the building upon which has been seriously damaged in the war. Be that as it may, having regard to war legislation as its stands at the moment, it seems clear, as the questioner has stated, that since the Government does not guarantee compensation until after the war is over, then, for the purpose of estate duties now or about to be payable, the value of the site is either with the damaged buildings upon it or denuded of it, whichever is the greater, and, as it stands, can only be assessed.

A.R.P. SCHEMES

LONDON.

Barking.—Borough Architect to prepare plans for extension of cooking facilities at Municipal Kitchen and at Woodward Hall.

Camberwell.—B.C. recommend expenditure of Emergency Committee in respect of A.R.P. and Civil Defence for year ending March 31, 1942, amounting to £35,407.

Uxbridge.—U.D.C. placed contract with Spiers, Ltd., London, for communal shelters.

Wandsworth.—B.C. seeking approval of Ministry of Home Security to enlarge 344 shelters, at £5,200.—Council recommend £4,275 for waterproofing and ventilating shelters.—Following additional contractors on works to carry out following: Communal surface shelters, Sampson and Hutchcroft and A. J. Styles, Ltd., Tooting; public and private shelters, W. T. Champion and Son, W. Blewett and Co., F. Northeast, Henry Lloyd, F. C. Flack, W. H. Lorden and Son, Ltd., and H. T. Oliver and Sons; maintenance work on public shelters, Panton and Co., H. Dakin and Co., J. Kidd and Son, and F. J. Rashbrook, Ltd.; demolition and clearance of sites, A. G. Reed and Son, F. Young, Cowcross Development Co., Ltd., P. C. Radcliffe, W. Stansby and Co., Raymond C. Nudd, Ltd., C. F. Marshall and Sons, Ltd., and Halse and Sons, Ltd.

Westminster.—City Council recommend following: Additional protective works at first-aid post, £850; waterproofing works at trenches at four sites, £2,040; provision of baffle walls, bricking up windows, etc., £350; adaptation and other works in connection with fire prevention scheme, £150; protection of glazing at four premises, £250; strengthening and adaptation works at wardens' report post, £153 11s.; and protective and other works at 56 sub-posts, £560.

Woolwich.—Ministry of Home Security approved erection of improved and larger type of domestic brick shelter which will enable sleeping bunks to be installed, and contracts placed with Unit Construction Co., Ltd.; Davis (Contractors), Ltd.; Robinsons (Gardens), Ltd.; Halse and Sons, Ltd.; and Thomas and Edge, Ltd.—Council recommended, subject to approval of Ministry of Home Security, sanitary accommodation be provided in public shelter at a library by Boro' Eng., at £211 2s.—London Civil Defence Region approved grant of £1,079, in respect of improved sanitary accommodation in shelters.—Sandbag protection at first-aid post at a dispensary to be replaced by brickwork by Boro' Eng., at £118 2s.—Schemes being prepared by Boro' Eng. in connection with provision of protected accommodation in certain civil defence buildings.

PROVINCIAL.

Ashton-under-Lyne.—T.C. propose municipal restaurant near St. Michael's-sq. and Chester-sq. Plans by A. T. Kemp, Boro' Sur.

Atherton.—U.D.C. to equip and adapt premises for communal feeding and cooking centre. Plans by F. L. Boydell, Sur.

Bangor.—T.C. propose public shelter on Toll Gate site. Plans by Price Davies, City Sur.—T.C. to establish community feeding and kitchen centre.

Barnard Castle.—R.D.C. propose 14 public shelters and also domestic shelters. Plans by H. Smith, Sur.—U.D.C. received sanction to build six public shelters and also propose to build domestic shelters. Mr. Nettleton, Urban Council Offices, architect.

Barrow-in-Furness.—F. L. Wooldridge, Boro' Sur., hon. architect for A.R.P. work at North Lonsdale Hospital for Board of Governors.

Belfast.—R. J. McDermott, 8, Trigo-pde., Belfast, secured contract for shelters at three markets for T.C. Plans by R. B. Donald, City Sur.

Billericay.—W. S. Martin, North Ockendon; Barvis Partners, Ltd., Romford; and F. E. Smith, Grays, have been recommended to the Ministry of Home Security for 1,000 domestic surface shelters for U.D.C. Plans by H. B. Mayhew, Sur.

Blackburn.—T.C. to adapt premises for communal feeding and kitchen centre. Plans by W. Pickstone, Boro' Eng.

Blyth.—T.C. received consent to concrete shelters to prevent flooding.

Boston.—T.C. instructed Boro' Sur. D. G. Cockrill to prepare plans for public shelter on playing fields.—T.C. to waterproof school shelters.

Caernarvon.—T.C. appointed Ll. Lloyd Jones, architect. Lloyd's Bank-chas., Eastgate-st., to prepare plans for communal shelters and for adaptation of basements for shelters.

Desborough.—U.D.C. placed contract with J. E. Dawkins, 7, Victoria-st., for brick protection wall round first-aid post.

Doncaster.—T.C. to instal 1,000 sleeping bunks in public shelters; erect garages for A.F.S. vehicles, at £685. Plans by R. E. Ford, Estates Sur.—A.R.P. Committee to adapt premises at Football Ground for community cooking centre, at £1,350.

Durham.—County E.C. accepted following tenders for shelters at district education offices: Randle and Co., Sunderland (Bishop Auckland); G. Browell, Ltd., Blaydon (Blaydon); G. Dyson, Ltd., Chester-le-Street (Chester-le-Street); J. Tully and Sons, Consett (Consett); J. J. Walton, Easington (Easington); R. D. Harrison, Houghton-le-Spring (Houghton-le-Spring); W. D. Allison, Whitburn (North-Eastern); A. E. Hobbs, Ltd., Stockton-on-Tees (South-Eastern); G. Gradon and Sons, Durham (Spennymoor); and H. Ayton and Sons, Blackhill (West Stanley).

Felling-on-Tyne.—U.D.C. to establish communal feeding centres. Plans by H. Fawcett, Sur.

Gateshead.—Home Office approved repairs to shelters, at £2,008; public shelter at a hall, at £125, and at a miners' hall, at £112.—T.C. to build shelters at branch libraries.

Halifax.—J. B. Brooke and Son, Ltd., Manchester-rd., Huddersfield, secured contract for 39 dormitory surface shelters at 21 sites in borough. Plans by D. T. Lloyd Jones, Boro' Eng., Crossley-st.

Hull.—T.C. prepared scheme for municipal cafés and community kitchens. Plans by A. Rankine (A.), City Architect.

Kendal.—T.C. propose community feeding and kitchen centre at men's club premises. Plans by G. German, Boro' Sur.

Kent.—C.C. recommend additional school shelters and installation of lighting and heating in existing school shelters.—E.C. propose that leases be taken of suitable sites for air raid shelters for six schools.

Kidderminster.—T.C. decided to establish communal feeding and kitchen centre, also 59 additional shelters. Plans by J. Hawcroft, Boro' Sur.

Llanfairfechan.—U.D.C. to erect 50-person public shelters on four sites. Plans by R. J. Hughes, Sur.

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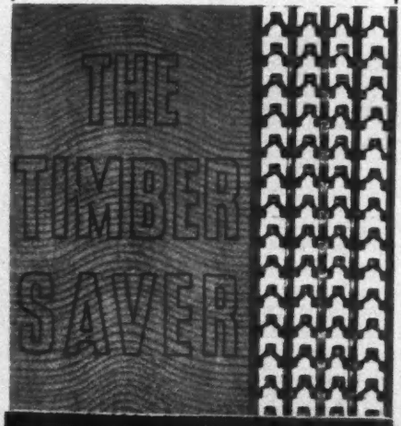

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Macclesfield.—M. A. Tetlow, Borough Architect, Pear Tree House, Jordangate, preparing plans for gas heating and lighting of school shelters.

Manchester.—E.C. to improve school shelters. Plans by J. B. Brez, Sur., Education Offices, Deansgate. Cost, £28,000.

Middlesbrough.—T.C. had scheme approved for 11 communal feeding centres. Plans by Cecil German, Boro' Eng.

Middleton.—T.C. to instal electric lighting in all 48-person public shelters and establish communal feeding and cooking centres. Plans by J. Pollard, Boro' Eng. and Architect.—Auxiliary fire station to be provided at a council school.

Newcastle-on-Tyne.—Tenders accepted by the City Council in connection with A.R.P.: Alterations to No. 4 (b) first-aid post, S. F. Davidson, New Bridge-st., £530; public basement shelter, H. Kindred, £334; basement shelter, H. Waller, £1,263 15s.; shelter at cleansing station, Kirk and Dickinson, Ltd., £356; protection of external openings at hospital, E. Thompson and J. and W. Lowry (total cost, £5,250); shelters at sanatorium, W. Beattie and Son, Whittington, £823 18s. All contractors of Newcastle.

Newcastle-on-Tyne.—Shelter to be provided for F. W. Woolworth and Co., Ltd., New Bond-st., London, W.1, by firm's construction dept.

North Cotswold.—A. C. Billings and Sons, Ltd., Stow-on-the-Wold, accepted, at £1,180, for domestic air raid shelters and other works in Moreton-in-Marsh, for R.D.C. Plans by J. E. Busfield, Sur. and Eng.

North Riding.—E.C. to instal electric lighting and heating in all school shelters, at £6,622.

Oldham.—T.C. to adapt premises at Hollinwood for auxiliary fire stations. Plans by G. E. Hardy, Boro' Eng.

Orrell.—U.D.C. to erect additional brick communal shelters. Plans by A. W. Charity, Sur.

Pontefract.—Corporation received consent to spend £513 on adaptation of refreshment room as civilian mortuary.

Prestwich.—T.C. accepted tender of F. Carson, 19, Bannerman-av., for waterproofing by concrete lining of 200 Andersons.

Rugeley.—U.D.C. propose communal feeding and kitchen centre.

Shrewsbury.—T.C. to adapt building for decontamination depot, at £319. Plans by A. W. Ward, Boro' Sur.

Skelmersdale.—U.D.C. to instal electricity in public shelters.—Scheme prepared for communal shelters for 1,980 and basement shelters for 462 persons. Plans by E. S. Rosbotham, Sur.

Skipton.—R.D.C. to prepare plans for 50-person public shelters at Glusburn, Sutton, Cross Hills and Steeton. Plans by A. Rodwell, Sur.

South Shields.—T.C. to spend £230 on adaptation of premises as communal kitchen.

South Shields.—Town Council is to build more air raid shelters. M. N. G. Richardson, Town Hall, South Shields, is Boro' Eng.

Spalding.—Holland (Lincs) E.C. propose additional A.R.P. work at council schools, at £1,500.

Stokesley.—R.D.C. to strengthen rooms at houses to provide air raid protection.—Communal shelters to be built at Stokesley for 1,440 people, Great Ayton 1,680 people, and Hutton Rudby 672 people.

Swadlincote.—U.D.C. to adapt premises at West-st. for community feeding and kitchen centre. Plans by G. S. Baker, Sur.

Swansea.—Boro' Eng. and Sur. reported approval of Regional Commissioner to £414 for adaptation of premises as shelters.

Trawden.—U.D.C. approved: shelter to factory. J. H. Fenner and Co., Ltd.

Wakefield.—T.C. to adapt hall for central feeding and cookery centre.

Wallsend.—R. Burke, Singleton House, Northumberland-rd., Newcastle-on-Tyne, architect, for shelter at R.C. school for E.C.

Wellingborough. — U.D.C. to strengthen and improve shelters and trenches, at £522. —U.D.C. appointed O. A. Roff, architect, 9, Midland-rd., to prepare plans and specifications for additional domestic shelters and supervise erection.

York.—T.C. accepted tender of R. J. Pulleyn and Sons for concrete block baffle walls for air raid protection purposes at hospital, at £576 7s.

SCOTLAND.

Bellshill.—Plans prepared for shelters at maternity hospital. Architect, W. Watts, Albert-st., Motherwell-Wishaw.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders: a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING.

FEBRUARY 22.

Desborough U.D.C.—Four brick public shelters. Sur. Dep. £1 1s.

New Malden T.C.—Fire station. A. R. Goldthorp, Boro' Eng.

York T.C.—Shelter at maternity hospital. Chas. J. Minter, City Eng. Dep. £1 1s.

FEBRUARY 24.

Bristol T.C.—Domestic surface shelters, bunkable type. A.R.P. (Protection), 34, Apsley-rd., Clifton, Bristol 8. Dep. £1 1s.

Burton-upon-Trent C.B.—Division walls in public shelters at various premises. Boro' Eng. and Sur.

Glamorgan C.C.—Alterations, etc., at Bargoed police station. D. J. Parry, Deputy Clerk, County Hall, Cardiff.

FEBRUARY 25.

Bedwellty U.D.C.—Six surface shelters at Blackwood. Dan H. Price, Eng. and Sur. Dep. £2 2s.

Colne Valley U.D.C.—Room at Town Hall, Slaithwaite. A. Shaw, architect, Golcar.

Kirkcaldy T.C.—Two shelters. Burgh Eng.

FEBRUARY 26.

Keighley T.C.—Concrete work at public abattoir. E. G. Felgate, Boro' Architect. Dep. £1.

FEBRUARY 27.

Worcestershire C.C.—Strengthening and improvement to public air raid trench shelters. B. C. Hammond, County Sur. and Bridgemaster, Worcester. Dep. £2 2s.

FEBRUARY 28.

Bootle C.B.—Auxiliary fire station. W. A. Harrison, M.Eng. (Liverpool), Cy.E., Boro' Eng. and Sur.

Chingford T.C.—Brick surface communal shelters. S. J. Hellier, Boro' Eng. and Sur.

MARCH 1.

Mynyddislwyn U.D.C.—Five shelters in Mynyddislwyn area. S. T. Monte, Chartered Civil and Structural Eng., Council Offices.

MARCH 3.

Luton T.C.—Concreting and waterproofing of 500 Anderson steel shelters. F. Oliver, Boro' Eng. and Sur.

Woking U.D.C.—Surface-type shelters. G. F. Hawkins, Eng. and Sur. Dep. £2 2s.

MARCH 5.

Carmarthen.—Reinstatement of fire damage, "Wesley" Methodist Chapel. A. J. Davies, steward, "Yr Eithin," Heol-y-delyn. Dep. £1 1s.

Stafford T.C.—68 houses. W. Plant, Boro' Eng. Dep. £2 2s.

MARCH 7.

Kingston-upon-Thames T.C.—Approx. 140 tons of steelwork for strengthening shelters. Boro' Sur.

MARCH 10.

Ealing T.C.—Temporary school, West Twyford. C. W. Seddon, Boro' Eng. Dep. £1 1s.

NO DATE.

Exeter.—Demolition of brick-built building at The Retreat, Topsham. Secretary, Wessex Tileries, Ltd., 21, Cathedral-yard, Exeter.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

FEBRUARY 24.

Cookham R.D.C.—Painting, decorating and repairs at Sleekstone and Woodland cottages, Cookham Rise. Sur.

Watford T.C.—Repairs and painting, etc., to houses on housing estates. W. W. Newman, Boro' Eng. Dep. £2 2s.

FEBRUARY 26.

Stamford T.C.—Painting of 187 houses. F. R. Ryman, Boro' Sur.

FEBRUARY 28.

Barnstaple T.C.—External painting of The Castle, and 13 and 17, Castle-st. Boro' Sur., The Castle.

MARCH 1.

Burton-upon-Trent C.B.—Painting of gasholders. H. Bailey Chapman, Town Clerk.

Hebburn U.D.C.—Painting and cleaning works to 198 houses. Acting Sur.

MARCH 3.

West Riding C.C.—Repairs to asphalt playground at Hoyland, King-st. school. A. Rayner, Education Office, Nether House, Grenoside, Sheffield.

MATERIALS.

The materials for which tenders are invited normally include one or several of the following:—asphalt, bricks brooms, building lime, cast-iron pipes, cement, stoneware pipes, granite chippings, granite kerbs, gravel, gulleys, lime, manhole covers, painters' materials, plumbers' materials, road stone, slates, sand, stone, tar, tarslag and bituminous macadam, timber, and whinstone screenings. Readers should obtain full particulars by personal inquiry.

FEBRUARY 22.

Tynemouth T.C.—Boro' Sur., 19-20, Howard-st., North Shields.

FEBRUARY 24.

Bacup T.C.—H. Guffogg, Boro' Eng.

Denbighshire C.C.—E. A. Evans, County Surveyor, 46, Clwyd-st., Ruthin.

Rhyl U.D.C.—T. Lomax, Sur.

Tees Valley Water Board.—E. A. Morris, Clerk, Water Board Offices, Middlesbrough.

Thorne R.D.C.—H. Plewes, Sur.

FEBRUARY 25.

Burgess Hill U.D.C.—Eng. and Sur.

Osgoldcross R.D.C.—Jas. E. White, Eng. and Sur., Tanshelf House, Pontefract.

Leeds T.C.—A. Mann, Director of Public Cleansing.

Wolverhampton C.B.—H. B. Robinson, Boro' Eng.

FEBRUARY 26.

Ormskirk U.D.C.—Sur.

FEBRUARY 27.

Hebburn U.D.C.—E. Foxall, Clerk.

Swansea C.B.—Boro' Architect.

FEBRUARY 28.

Belfast C.B.—City Electrical Eng., East Bridge-st.

Blackburn R.D.C.—Eng. and Sur., 42, Wellington-st.

Bolsover U.D.C.—W. Veevers, Clerk.

Derbyshire C.C.—S. Mehew, County Sur.

Lindsey C.C.—A. G. Bradshaw, County Sur., Lincoln.

Londonderry C.C.—J. A. Moore, County Sur., Coleraine.

Maldon T.C.—F. Rath, Boro' Eng.

Pudsey T.C.—Boro' Sur.

MARCH 1.

Leek U.D.C.—J. A. Gilchrist, Sur.

Salop C.C.—County Sur., Shrewsbury.

Westhoughton U.D.C.—G. Hayes, Sur.

Willenhall U.D.C.—N. D. Martin, M.Inst.M. and Cy.E.

Wilmslow U.D.C.—A. A. Hamilton, Sur.

MARCH 3.

Shrewsbury T.C.—A. W. Ward, Boro' Sur.

MARCH 5.

Carmarthenshire C.C.—T. W. Wishlade, County Sur., Carmarthen.

ENGINEERING, IRON AND STEEL.

FEBRUARY 28.

Seaton Valley U.D.C.—New sewers and extensions to existing sewage disposal works. Taylor and Wallin, engineers, 13, Lansdowne-ter. East, Gosforth, Newcastle-upon-Tyne, 3.

MARCH 3.

Ballymena T.C.—Impounding reservoir. John Taylor and Sons, engineers, Caxton House, Westminster, London, S.W.1. Dep. £5.

MARCH 5.

Abergele U.D.C.—Water supply, comprising mass concrete settling tank, service reservoir and sludge beds, etc. Sandford Fawcett and Partners, consulting engineers, Maple Lodge Farm, Maple Cross, Rickmansworth, Herts.

MARCH 17.

South Africa.—Stoker fired boilers complete with auxiliaries; also steel frame buildings for boiler and turbine houses for Pretoria City Council. Merz and McLellan, consulting engineers, 32, Victoria-st., London, S.W.1. Dep. £2 2s.

NO DATE.

Perthshire C.C.—Providing and laying about 4½ miles of water pipe, building brick storage tank. H. J. Bell and Co., engineers, 18, Charlotte-st., Perth.

ROAD, SEWERAGE AND WATER WORKS.

FEBRUARY 22.

Warwick R.D.C.—1,873 yds. of 4-in. dia. spun iron pipes along Harbury-la., together with ancillary work. Sur., Waterloo-pl., Leamington Spa.

FEBRUARY 24.

Looe U.D.C.—Connecting the Duchy water supply with town's water supply. Sur.

MARCH 4.

Coventry T.C.—Surfacing of Windmill-hill. E. H. Ford, City Eng. and Sur. Dep. £5 5s.

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ENGLISH JOINERY MANUFACTURERS' ASSOCIATION

A GENERAL meeting of this Association was held at the Goring Hotel, Grosvenor-gardens, S.W.1, on Wednesday, January 22. The President reported briefly on the satisfactory relationship which had for some time existed between the Association and the various Ministries, purchasing and designing Departments, and mentioned the large volume of contracts which had been placed with members through the efforts of the Association. When last he had addressed the whole of the membership he had been able to report a total trade figure of over £1,000,000 placed in this way, but this figure was now greatly increased and was substantially over £1,500,000. Every avenue of approach was being investigated by the Association, and everything possible was being done to further the interests of the members and increase the prestige of the Association.

Referring to the resolution on the agenda which proposed a levy for the present year and an increase of subscription for next year, the President pointed out that this had been an expensive year for the Association, partly because of the losses sustained when the Association's offices had been partially demolished through enemy action, and partly because of the larger staff required to deal with the volume of correspondence and detail necessitated by the Association's work.

The President then referred to the incorporation of the Association, which it was hoped would be completed before the end of the present financial year, and concluded by paying a personal tribute to the senior vice-president, Mr. Mugford.

The Treasurer then proposed the resolutions calling for the levy for the present year and the increase of subscription for the coming year, which were carried unanimously.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1941

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.
Aberavon	1/10	1/5½	Clitheroe	1/10	1/5½	Isle of Thanet	1/8	1/3½	Saxmundham	1/6½	1/2½
Aberdare	1/10	1/5½	Cobham (Surrey)	1/9	1/4½	Isle of Wight	1/7½	1/3½	Scarborough	1/9½	1/4½
Abergavenny	1/10	1/5½	Colchester	1/9½	1/4½	Keighley	1/10	1/5½	Scunthorpe	1/10	1/5½
Abingdon	1/8½	1/4	Colwyn Bay	1/9	1/4½	Kenilworth	1/10	1/5½	Selby	1/10	1/5½
Accrington	1/10	1/5½	Congleton	1/9½	1/4½	Kettering	1/10	1/5½	Sevenoaks	1/8½	1/4
Aldeburgh	1/6½	1/2½	Coventry	1/10	1/5½	Kidderminster	1/9½	1/4½	Sheerness	1/8	1/3½
Aldershot	1/8½	1/4	Cranbrook	1/8	1/3½	King's Lynn	1/8	1/3½	Sheffield	1/10	1/5½
Alfreton	1/10	1/5½	Cranleigh	1/8	1/3½	Kirkham	1/10	1/5½	Shipley	1/10	1/5½
Alnwick	1/9½	1/4½	Crawley	1/8	1/3½	Knowle	1/9½	1/4½	Shoeburyness	1/9½	1/4½
Altrincham	1/10	1/5½	Crewe	1/9½	1/4½	Lancaster	1/10	1/5½	Shoreham	1/9	1/4½
Amble	1/9½	1/4½	Cromer	1/7	1/3	Leamington	1/10	1/5½	Shrewsbury	1/9½	1/4½
Amersham	1/8½	1/4	Crowborough	1/8	1/3½	Leatherhead	1/9	1/4½	Sittingbourne	1/8	1/3½
Ammanford	1/10	1/5½	Cuckfield	1/8	1/3½	Leeds	1/10	1/5½	Skegness	1/9	1/4½
Andover	1/8	1/3½	Darlington	1/10	1/5½	Leicester	1/10	1/5½	Sleaford*	1/8½	1/4
Ardingley	1/8	1/3½	Darwen	1/10	1/5½	Leighton Buzzard	1/7	1/3	Slough	1/9	1/4½
Arundel	1/8	1/3½	Daventry	1/8½	1/4	Letchworth	1/9	1/4½	Southampton	1/9½	1/4½
Ascot	1/8	1/3½	Deal	1/8	1/3½	Lewes	1/8	1/3½	Southend-on-Sea	1/9½	1/4½
Ashby-de-la-Zouch	1/10	1/5½	Denbigh	1/9	1/4½	Lichfield	1/9	1/4½	Southport	1/10	1/5½
Ashford (Kent)	1/8	1/3½	Derby	1/10	1/5½	Lincoln	1/10	1/5½	South Shields	1/10	1/5½
Ashford (Middlesex)	1/10	1/5½	Devizes	1/7	1/3	Littlehampton	1/8	1/3½	Spalding	1/8	1/3½
Ashington	1/9½	1/4½	Dewsbury	1/10	1/5½	Liverpool	‡§2/-	¶	Stafford	1/9½	1/4½
Ashtead	1/10	1/5½	Didcot	1/8	1/3½	Llandudno	1/9	1/4½	Staines	1/9	1/4½
Ashton-under-Lyne	1/10	1/5½	Diss	1/6½	1/2½	Llanelly	1/10	1/5½	Stamford	1/9	1/4½
Aylesbury	1/8	1/3½	Doncaster	1/10	1/5½	London—			Stevenage	1/9	1/4½
Aylsham	1/7	1/3	Dorchester	1/7½	1/3½	12m. radius	*1/11½	1/6½	Stockport	1/10	1/5½
Bagshot	1/8	1/3½	Dorking	1/8½	1/4	12-15 m. radius	*1/11	1/6	Stockton-on-Tees	1/10	1/5½
Banbury	1/8	1/3½	Dover	1/8	1/3½	Long Eaton	1/10	1/5½	Stoke-on-Trent	1/10	1/5½
Barnsley	1/10	1/5½	Dovercourt	1/8	1/3½	Longton	1/10	1/5½	Stourbridge	1/10	1/5½
Barnstaple	1/8	1/3½	Driffield	1/8½	1/4	Loughborough	1/10	1/5½	Stourport	1/9½	1/4½
Barrow-in-Furness	1/10	1/5½	Droitwich	1/9½	1/4½	Louth	1/8½	1/4	Stowmarket	1/7	1/3
Barry	1/10	1/5½	Dudley	1/10	1/5½	Lowestoft	1/8	1/3½	Stratford-on-Avon	1/9	1/4½
Basingstoke	1/8	1/3½	Dunstable	1/8½	1/4	Luton	1/9½	1/4½	Stroud	1/9	1/4½
Bath	1/9½	1/4½	Durham City	1/10	1/5½	Macclesfield	1/9½	1/4½	Sunderland	1/10	1/5½
Batley	1/10	1/5½	Eastbourne	1/9	1/4½	Maidenhead	1/9	1/4½	Sutton Coldfield	1/10	1/5½
Beaconsfield	1/8½	1/4	E. Glam. (Mon. Val.)	1/10	1/5½	Maidstone	1/8½	1/4	Swaffham	1/6½	1/2½
Beccles	1/6½	1/2½	East Grinstead	1/8	1/3½	Malvern	1/8½	1/4	Swanage	1/8	1/3½
Bedford	1/9½	1/4½	Edenbridge	1/8	1/3½	Manchester	1/10	1/5½	Swansea	1/10	1/5½
Berkhamsted	1/8	1/3½	Ely	1/7	1/3	Manningtree	1/7	1/3	Swindon	1/8½	1/4
Berwick	1/9½	1/4½	Epping	1/10	1/5½	Mansfield	1/10	1/5½	Tamworth	1/9½	1/4½
Beverley	1/10	1/5½	Exeter	1/9½	1/4½	March	1/7	1/3	Taunton	1/8½	1/4
Bexhill-on-Sea	1/8½	1/4	Exmouth	1/8½	1/4	Margate	1/8	1/3½	Tenterden	1/8	1/3½
Bideford	1/8	1/3½	Fakenham	1/7	1/3	Market Harborough	1/9	1/4½	Thames Haven	1/10	1/5½
Biggleswade	1/8	1/3½	Falmouth	1/8½	1/4	Matlock	1/8½	1/4	Thetford	1/7½	1/3½
Billericay	1/7½	1/3½	Fareham	1/9	1/4½	Melton Constable	1/6½	1/2½	Thorpe Bay	1/9½	1/4½
Birchington	1/8	1/3½	Faversham	1/8	1/3½	Melton Mowbray	1/9	1/4½	Todmorden	1/10	1/5½
Birkenhead	‡§2/-	¶	Felixstowe	1/9	1/4½	Merthyr	1/10	1/5½	Tonbridge	1/8½	1/4
Birmingham	†1/10	†1/5½	Filey	1/8½	1/4	Middlesbrough	1/10	1/5½	Torquay	1/9½	1/4½
Bishop Auckland	1/10	1/5½	Fleetwood	1/10	1/5½	Middleton	1/10	1/5½	Totnes	1/8	1/3½
Bishops Stortford	1/9	1/4½	Flint	1/10	1/5½	Middlewich	1/9½	1/4½	Trowbridge	1/7	1/3
Blackburn	1/10	1/5½	Folkestone	1/8	1/3½	Milford Haven	1/8½	1/4	Truro	1/7½	1/3½
Blackpool	1/10	1/5½	Frinton-on-Sea	1/8	1/3½	Morecambe	1/10	1/5½	Tunbridge Wells	1/8½	1/4
Blyth	1/10	1/5½	Frome	1/7	1/3	Morley	1/10	1/5½	Uppingham	1/8½	1/4
Bognor Regis	1/8	1/3½	Gainsborough	1/9	1/4½	Mundesley	1/7	1/3	Uttoxeter	1/8½	1/4
Bolton	1/10	1/5½	Gateshead	1/10	1/5½	Nantwich	1/9½	1/4½	Wakefield	1/10	1/5½
Bournemouth	1/9	1/4½	Gillingham (Kent)	1/9	1/4½	Nelson	1/10	1/5½	Walsall	1/10	1/5½
Bracknell	1/8	1/3½	Glossop	1/10	1/5½	Newark-on-Trent	1/9½	1/4½	Walsden	1/10	1/5½
Bradford	1/10	1/5½	Gloucester	1/9½	1/4½	Newbury	1/8	1/3½	Walton-on-Naze	1/8	1/3½
Bradford-on-Avon	1/7	1/3	Godalming	1/8	1/3½	Newcastle-on-Tyne	1/10	1/5½	Ware	1/9½	1/4½
Braintree	1/8	1/3½	Goole	1/10	1/5½	Newcastle-u.-Lyme	1/10	1/5½	Warminster	1/7	1/3
Brentwood	1/9½	1/4½	Gosport	1/9½	1/4½	New Forest	1/8	1/3½	Warrington	1/10	1/5½
Bridgwater	1/8½	1/4	Grantham	1/9	1/4½	Newmarket	1/8	1/3½	Warwick	1/10	1/5½
Bridlington	1/9½	1/4½	Gravesend	1/9½	1/4½	Newport, Mon.	1/10	1/5½	Wellingborough	1/9½	1/4½
Brighouse	1/10	1/5½	Great Yarmouth	1/8	1/3½	Newport Pagnell	1/8	1/3½	Welwyn	1/9	1/4½
Brighton	1/9	1/4½	Grimsby	1/10	1/5½	Northampton	1/10	1/5½	Welwyn Gar. City	1/10	1/5½
Bristol	1/10	1/5½	Guildford	1/8	1/3½	Norwich	1/10	1/5½	Wells (Norfolk)	1/6½	1/2½
Broadstairs	1/8	1/3½	Guilsborough	1/8½	1/4	Nottingham	1/10	1/5½	West Bromwich	1/10	1/5½
Bromsgrove	1/9½	1/4½	Halifax	1/10	1/5½	Nuneaton	1/10	1/5½	Westcliff-on-Sea	1/9½	1/4½
Buckley	1/10	1/5½	Hanley	1/10	1/5½	Oakham	1/8½	1/4	Weston-super-Mare	1/9	1/4½
Bungay	1/6	1/2½	Harpenden	1/9	1/4½	Oldham	1/10	1/5½	Weybridge	1/9	1/4½
Burnham-on-Crouch	1/6½	1/2½	Harrogate	1/10	1/5½	Ormskirk	1/10	1/5½	Weymouth	1/8	1/3½
Burnley	1/10	1/5½	Hartlepools	1/10	1/5½	Oxford	1/9½	1/4½	Whitby	1/9	1/4½
Burslem	1/10	1/5½	Harwich	1/8	1/3½	Oxted	1/8½	1/4	Whitstable	1/8	1/3½
Burton-on-Trent	1/10	1/5½	Haslemere	1/8	1/3½	Paignton	1/9½	1/4½	Widnes	1/10	1/5½
Bury	1/10	1/5½	Hastings	1/8	1/3½	Peterborough	1/9½	1/4½	Wigan	1/10	1/5½
Bury St. Edmunds	1/7½	1/3½	Hatfield	1/9½	1/4½	Plymouth	1/10	1/5½	Wigton	1/8½	1/4
Buxton	1/9½	1/4½	Haywards Heath	1/8	1/3½	Pontefract	1/10	1/5½	Willington	1/10	1/5½
Byfleet	1/8½	1/4	Hednesford	1/9½	1/4½	Pontypridd	1/10	1/5½	Wilmslow	1/10	1/5½
Cambridge	1/10	1/5½	Hemel Hempstead	1/9	1/4½	Port Talbot	1/10	1/5½	Winchester	1/8½	1/4
Canterbury	1/8	1/3½	Henley-on-Thames	1/8	1/3½	Portsmouth	1/9½	1/4½	Windermere	1/8½	1/4
Cardiff	1/10	1/5½	Hereford	1/8	1/3½	Preston	1/10	1/5½	Windsor	1/9	1/4½
Carlisle	1/10	1/5½	Herne Bay	1/8	1/3½	Pulborough	1/8	1/3½	Wisbech	1/7½	1/3½
Carnforth	1/10	1/5½	Hertford	1/9½	1/4½	Ramsgate	1/8	1/3½	Witham	1/8	1/3½
Castleford	1/10	1/5½	Heysham	1/10	1/5½	Reading	1/9½	1/4½	Woking	1/8½	1/4
Caterham	1/10	1/5½	Hitchin	1/9	1/4½	Redditch	1/9½	1/4½	Wokingham	1/8	1/3½
Chard	1/7	1/3	Hoddesdon	1/9½	1/4½	Redhill	1/8½	1/4	Wolverhampton	1/10	1/5½
Chatham	1/9	1/4½	Holt (Norfolk)	1/6½	1/2½	Ripon	1/8½	1/4	Woodbridge	1/7½	1/3½
Chelmsford	1/9½	1/4½	Horley	1/8	1/3½	Rochdale	1/10	1/5½	Worcester	1/9½	1/4½
Cheltenham	1/9	1/4½	Horsham	1/8	1/3½	Rochester	1/9	1/4½	Workington	1/8½	1/4
Chepstow	1/9½	1/4½	Horwich	1/10	1/5½	Rugby	1/10	1/5½	Worksop	1/9½	1/4½
Chertsey	1/9	1/4½	Huddersfield	1/10	1/5½	St. Albans	1/9½	1/4½	Worthing	1/8	1/3½
Chester	1/10	1/5½	Hull	1/10	1/5½	St. Helens	1/10	1/5½	Wrexham	1/9½	1/4½
Chesterfield	1/10	1/5½	Hunstanton	1/7	1/3	St. Neots	1/7½	1/3½	Wroxham	1/7½	1/3½
Chichester	1/8	1/3½	Huntingdon	1/7½	1/3½	Saffron Walden	1/7	1/3	Wycombe	1/9	1/4½
Chorley	1/10	1/5½	Ilfracombe	1/8	1/3½	Salisbury City	1/7½	1/3½	Wymondham	1/7	1/3
Cirencester	1/7½	1/3½	Ingatestone	1/8½	1/4	Salisbury Plain	1/9	1/4½	Yeovil	1/8½	1/4
Clacton	1/8	1/3½	Ipswich	1/9½	1/4½	Sawbridgeworth	1/8½	1/4	York	1/10	1/5½
Cleveleys	1/10	1/5½									

* Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 2/0½

¶ Tradesman's Labourers, 1/6½. Navvies and General Labourers 1/5½.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE: Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 4d per day Tool Allowance

For Building Trade Wages in Scotland, see page 214.

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery.

At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.

BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for cartage should be obtained as the haulage question is difficult.

		£ s. d.
First Hard Stocks	per 1,000	£4 5 6
Second Hard Stocks	„	3 18 6
Mild Stocks	„	3 5 6
Single Rough Stocks	„	2 19 6
Third Common Stocks	„	2 10 0

	King's Cross Station	To sites in W.C. District.
2½ in. Phorpres. A discount of 6d. per 1,000 only for monthly account.	per 1,000. s. d.	per 1,000 s. d.
Pressed	51 9	58 3
Keyed	53 9	60 3
Single Bullnose	71 9	78 3
Rustics	71 9	78 3
Whites	72 3	78 3

White Midhurst Facing Bricks (delivered London site) £ 3 12 s. 6 d.
Best blue Pressed Staffs. (London Stns.) 10 2 0
Do. Bullnose (London Stns.) 10 12 0
Blue Wire Cuts (London Stns.) 8 19 6
Best Stourbridge Fire Brick (London Stns.):—
2½ in. 9 3 6 3 in. 11 1 0
GLAZED BRICKS. (London Stns.)
Best White Ivory and Salt Glazed Stretcher 28 0 0 D'ble Str'tch'rs 36 10 0 D'ble Headers 33 10 0 One side&two ends 37 10 0
Headers 27 10 0 Two sides&one end 38 10 0
Quoins, Bullnose and 4½ in. Flats 34 10 0 Splays and Squints 36 0 0
Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

2" per yd. sup.	2 3	3" per yd. sup.	2 9
2½" „ „	2 6	4" „ „	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 6	3" per yd. sup.	2 0
2½" „ „	1 8	4" „ „	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½" „ „	3 6	4" „ „	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

SAND.

Thames Ballast	8 6 per yd.	delivered 2 miles radius Paddington.
Pit Ballast	8 6 „ „	
Pit Sand	10 0 „ „	
Washed Sand	13 0 „ „	
¾ in. Shingle	8 0 „ „	
¼ in. Broken Brick	12 6 „ „	
Pan Breeze	8 3 „ „	

CEMENT.

Best British Portland Cement. Standard Specification.

delivered London Area.	£ s. d.
4 ton loads and upwards site. Per ton	2 9 6
1 ton to 4 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 7 0
"Ferrocrete" Rapid Hardening Cement—	
4 ton loads and upwards site	2 15 6
1 ton to 4 tons site	2 18 6
Alongside Vauxhall in 80 ton lots	2 13 0

Stored in Reserved Bins at works. 1/6 per ton extra.
"Aquacrete" Water Repellent, "Blue Circle" cement, 30/- per ton extra on ordinary "Blue Circle" prices.

"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement	3 19 6
"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.	
"Snowcrete" White Portland Cement	9 5 0
Super Cement (Waterproof), *bags extra*	3 19 6

NOTE.—Paper bags will be charged at the rate of 6/- nett per ton. Jute sacks charged 1s. 9d. nett each and 1/6 nett each allowed if returned to works within two weeks, in good condition.
Carriage will be paid by makers on returned empty jute sacks.

Roman Cement	£8 0	Keene's Cement, White	£7 0 0
Parian Cement	7 0	„ „ Pink	6 10 0

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 6 0	Sapele Coarse	4 5 6
„ White	4 7 6	„ Finish	4 13 6
Pioneer	4 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	3 6 6	Grey Stone Lime	2 14 6
		Chalk Lime	2 14 6
Granite Chippings	1 15 0	Hair per cwt.	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.
Stourbridge Fireclay in paper bags, £2 12 6 in 6-ton lots at railway depot.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube s. 3 d. 3½

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station, per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. „ 3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—

	s. d.
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 7
Do. do. delivered on road waggons as above stations, per ft. cube	4 7
White basebed, 3d. per ft. cube extra.	

NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.

HOPTON-WOOD STONE—	
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over F.ft.cb.	14 0
Sawn two sides	22 6
HOPTON-WOOD STONE—	
Sawn three or four sides	27 0

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London.

6 in. sawn two sides landings to sizes (under 30 ft. super) per ft. super	5 6
6 in. rubbed two sides, ditto „	6 3
3 in. sawn two sides slabs (random sizes) „	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) „	1 8½
1½ in. to 2 in. ditto „	1 4½

HARD YORK—
Delivered at any Goods Station, London.

Scrappled random blocks. per ft.cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) per ft.super	5 7½
6 in. rubbed two sides, ditto „	6 9
4 in. sawn two sides slabs (random sizes) „	3 5
3 in. ditto ditto „	2 8
2 in. self-faced random flags per yd.super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK.

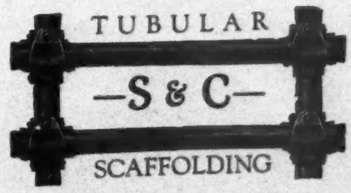
Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube .10 6 to	0 13 0
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube 12 6 to	0 16 0
Dry Cuba Mahogany, per ft. cube	0 18 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 6
Dry Australian Walnut, per ft. cube	0 19 0
Dry Queensland Silky Oak, per ft. cube	0 12 6
Dry African Mahogany, per ft. cube	0 10 0
Dry African Whitewood, per ft. cube	0 8 0
Dry English Wainscot Oak, per ft. cube	0 16 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. .4 7 0 to	5 10 0

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE.

	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes, 2 in. by 3 in. to 4 in. by 11 in.	43 10 0	53 0 0

Having Secured the Contract— What about the Steel Scaffolding?



For the lowest Prices apply to the Oldest Firm in the Scaffolding Trade.

STEPHENS & CARTER LTD.
The British Steel Scaffolding Co.
731-761, HARROW RD., N.W.10.
Telephone No. Ladbroke 1191 (6 lines).

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	67 10 0

	Per square. s. d.
1 in. plain edge flooring	53 0
1¼ in. ditto	66 6
1 in. tongued and grooved	53 0
1¼ in. ditto	66 6

MATCHING.

	Per square. s. d.
¾ in.	37 6
¾ in.	42 0
1 in.	55 0

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	39 7 6	18 by 10	21 15 0
22 by 12	33 0 0	18 by 9	20 0 0
22 by 11	30 5 0	16 by 10	19 0 0
20 by 12	29 10 0	16 by 8	15 5 0
20 by 10	27 2 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r. London

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	£5 10 0
Ditto hand-made ditto	6 10 0
Ornamental ditto	6 15 0
Hip and valley tiles (per dozen) { Hand-made	0 11 6
{ Machine-made	0 11 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

R.S. Joists, cut and fitted	£22 10 0
Plain Compound Girders	25 0 0
„ „ Stanchions	27 10 0
In Roof Work	32 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.
MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	22 5 0	⅜ in. to ½ in.	20 15 0
⅝ in.	21 5 0	¾ in. to 2½ in.	20 5 0

WROUGHT TUBES AND FITTINGS.
Deliveries from works.
Deliveries from London stock further 2½% gross.

Tubes. ⅛"/6" %	Tubulars. ⅛"/6" %	10/17 19/24 %	Fittings. ⅛"/2" %	Flanges. 2½"/6" %
Light weight 55½	—	48	41½	58
Heavy weight 48½	48½	40½	41½	50½
Galv.lightweight 44½	—	39½	40½	49½
Galv.heavyweight 35½	35½	31½	30½	41½

Tubes and tubulars sizes ⅛"/⅜" inclusive, charged extra of 5% less gross.
Fittings. Figs. 25/34 5% less gross discount.
Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.
C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/4½	1/1	4d.
3½ in.	1/5½	1/2½	4d.
4 in.	1/5½	1/4½	6½d.
4½ in.	1/6½	1/8	7½d.
5 in.	1/10½	1/11½	8d.

O.G. GUTTERS.

3 in.	1/9	1/5½	4½d.
3½ in.	1/11½	1/5½	6d.
4 in.	1/11½	1/6½	7d.
4½ in.	2/0½	1/9½	8d.
5 in.	2/6	2/0½	9½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe.	Bends. Stock angles.	Branches.
2 in.	2/0½	1/4½	2/0
2½ in.	2/1½	1/6½	2/4½
3 in.	2/7½	1/11½	2/10½
3½ in.	3/1	2/3½	3/4½
4 in.	3/6½	2/9½	4/0½

NETT PRICES.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.
L.C.C. COATED SOIL PIPES.—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	3/4½	2/4½	2/10½
2½ in.	4/0½	2/7½	3/7½
3 in.	4/4½	2/10½	4/3½
3½ in.	4/5½	3/7½	5/0½
4 in.	4/10	4/0½	5/9½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 fts.	5/5	6/3	9/11
cwt. qr. lbs.			
4 in. 1 1 20.	7/11	7/1	12/0
5 in. 1 2 22.	9/7	12/0	19/3
6 in. 2 0 6.	11/5	14/8	25/6

Gaskin, 75/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

	Per ton basis in London. £ s. d.		£ s. d.
IRON.—Staffordshire Crown, Merchant quality	17 2 6	to	18 7 6
IRON.—Staffordshire Marked Bars	20 0 0	to	22 0 0
Mild Steel Bars	19 12 0	to	21 2 0
Mild Steel Hoops	21 6 0	to	21 16 0
	Ex Merchant's Stock, per ton (two-ton lots).		
Soft Steel Sheets, C.R. and C.A.—			
20 gauge	24 17 6	to	27 5 0
24 gauge	25 2 6	to	27 0 0
26 gauge	25 17 6	to	27 15 0
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—			
20 gauge	27 1 3	to	28 6 3
24 gauge	27 11 3	to	28 16 3
26 gauge	28 16 3	to	30 11 3
Galvanised Flat Sheets, C.R. and C.A.—			
20 gauge	28 11 3	to	30 8 9
24 gauge	29 1 3	to	30 18 9
26 gauge	30 6 3	to	32 3 9
	Per ton. £ s. d.		£ s. d.
Cut Nails, 3 in. and up	26 0 0	to	27 10 0
	ALL NETT.		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

Seamless copper tubes (basis)	per lb.	1/3
Strong sheet	"	1/6
Thin sheet	"	1/7
Copper nails	"	1/6
" wire	"	1/6

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
34/-	53/- per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
50/-	68/- per doz.

S.D. STOP COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
27/6	53/-	87/-	202/-	288/-	460/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
47/-	75/6	120/-	226/-	360/-	588/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
8/10	9/9	15/9	27/3	44/-	63/6 per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

½ in.	¾ in.	1 in.	1½ in.	1½ in.
45/-	73/-	120/-	204/-	260/- per doz.

CAPS AND SCREWS.

1½ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
10/6	12/9	19/3	34/-	48/-	53/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
9/9	12/6	22/6	33/-	42/- per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼ in.	1½ in.	2 in.	3 in.
6 lb. Lead P.	29/-	38/-	54/-	93/- per doz.
8 lb. Lead S.	36/-	42/-	67/-	120/- "

SOLDER.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in drums	per gallon	0 5 4
Boiled Linseed Oil, in drums	"	0 5 7
Turpentine, in drums (10 gals.)	"	0 5 3
Genuine Ground English White Lead, per ton (in not less than 5-cwt. casks).		61 0 0
Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.		
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots, per ton delivered		83 10 0
Red Lead, Dry (packages extra)	per ton	52 0 0
Best Linseed Oil Putty (1 ton lots)	per cwt.	0 17 1½
Size. XD quality	fkn.	0 3 6
Turpentine substitute can be obtained and prices vary according to the quality from 2/9 gallon upwards.		
		£ s. d.
SNOWCEM CEMENT PAINT	per cwt.	2 16 0
C.M.C. CAMOUFLAGE PAINT	"	2 16 0

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 14 0
Fine do.	"	0 16 0
Fine Copal	"	0 18 0
Pale Copal	"	1 0 0
Pale Opal Carriage	"	1 4 0
Best do. do.	"	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	"	0 18 0
Fine Copal Cabinet	"	1 2 0
Fine Copal Flatting	"	1 0 0
Hard Drying Oak	"	0 18 0
Fine Hard Drying Oak	"	0 19 6
Fine Copal Varnish	"	1 0 6
Pale do.	"	1 12 0
Best do.	"	1 2 6
Best Japan Gold Size		1 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY (O.Q.) AND SELECTED GLAZING QUALITY (S.Q.).

PER FOOT SUPER.

In sizes not exceeding 80 in. long or 48 in. wide or 110 united inches.

	O.Q.	S.Q.
18 oz. in 300 ft. cases	2½d.	2¾d.
24 oz. " 200 ft. "	3½d.	4d.
26 oz. " 200 ft. "	3¾d.	4¼d.
32 oz. " 200 ft. "	5½d.	6¼d.
24 oz. " 300 ft. "	3¼d.	3¾d.
26 oz. " 300 ft. "	3¾d.	4¼d.
32 oz. " 300 ft. "	5¼d.	6¼d.
18 oz. Obscured Sheet	5¼d.	
24 oz. Obscured Sheet	6¼d.	
Fluted, 21 oz.	9d.	
Enamelled, 18 oz.	5¼d.	
" 24 oz.	6¼d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft.
Rolled plate, ¼ in.	5¼d.
Rough cast double rolled, ⅜ in.	6¼d.
Rough cast double rolled, ½ in.	6¾d.
Figured rolled, and Cathedral, white	6¾d.
Figured rolled and Cathedral, tinted	9¼d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calorex" Sheet, 21 oz.	2 6
" " 32 oz.	4 0
" Cast, ¼ in. thick	0 10
" " ⅜ in. thick	1 0
" " ½ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
" " " ⅜ in. thick	1 0
" " " ½ in. thick	1 2

"VITA" GLASS.

	Per ft. s. d.
"Vita" Plate Glass, about 3/16 thick	
To 7 ft. super	5 0
Over 7 ft. super	7 6
"Vita" Sheet Glass, about 18/20 oz.	2 0
Cathedral "Vita" Glass:	
¼ in. thickness	2 0
⅜ in. "	3 0
1/16 in. Georgian Wired "Vita" Glass	3 6

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	34 10 0
Pipe in coils	34 0 0
Soil pipe	39 10 0
Compo pipe	41 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills, per ton } £18 0 0.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from February 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/10½	1/10	1/9½	1/9	1/8½	1/8
Labourers	1/5	1/4½	1/4½	1/4	1/3½	1/3½

Aberdeen	A	Dumfriesshire	A*	Inverness	*	Perthshire	A²
Ayrshire	A	Dundee	A	Inverurie	A¹	Peterhead	A¹
Banff	B	Dunoon	A	Kincardineshire	A²	Renfrewshire	A
Berwickshire	A²	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A²
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A²
Doune	A	Forfarshire	A²	Moray and Nairn	B	Stewartry	A²
Dunblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A²	Stornoway	A
Dumfries	A¹	Hamilton	A	Perth	A	Tayport	A²
						West Lothian	A

* This town has its own rates: Masons, 1/8½; Carpenters, 1/8½; Slaters, 1/8½; Plumbers, 1/9; Plasterers, 1/9½; but 1/10 is paid owing to the scarcity at present; Painters, 1/8½ and Labourers, 1/4.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 212.

THE SCOTTISH BUILDER

GLASGOW.—BUILDING.—Plans have been prepared by the Ioco Rubber and Waterproofing Co., Ltd., Anniesland, for transformer-house.—Plans prepared by Messrs. W. Baillie and Son, architects, 2, West Regent-st., for additions, for Connell and Co., Ltd.—Messrs. W. Beardmore, Ltd., had plans prepared for alterations and additions at works.—Plans approved for additions at Queen's Park Laundry, the architects being Messrs. Miller and Black, 132, West Regent-st.—Plans prepared for storage buildings of Messrs. George Christie and Co., Ltd., who were the architects. Principal contractors are the Glasgow Steel Roofing Co., Ltd.—Plans prepared for storage buildings, the architects being A. Stephens and Co., Ltd., Linthouse.

GLASGOW.—ADDITIONS. — The Corporation propose alterations and additions, at £12,314, to a fire station. Plans by Mr. Thomas Somers, Office of Public Works.

HAMILTON.—GARAGE. — Plans prepared for garage at the police quarters, at £4,750. Plans by Mr. W. Watts, architect, Albert-st., Motherwell-Wishaw.

INVERNESS.—SUB-STATIONS. — The T.C. have approved three new electricity sub-stations, at £18,840.

PORT GLASGOW.—PREMISES.—Plans prepared for new buildings by Messrs. Ferguson Brothers, Ltd. Plans are by company's own architects.

STIRLINGSHIRE. — BUILDING. — The Plans Sub-Committee have approved following plans: Stirlingshire C.C., fire station, architect, Mr. A. N. Malcolm, County Architect, Stirling; Cannerton Brick Co., Ltd., office premises, architects, Messrs. Wilson and Wilson, 39, Vicar-street, Falkirk.

NEW BUILDINGS IN LONDON

LONDON.—BUILDING.—The M.W.B. has approved £7,444 for drainage and the modernisation of the lavatory accommodation at one of the Board's waterworks.

POTTERS BAR. — FIRE STATION. — Contract has been placed with Messrs. Wray (London), Ltd., Broxbourne, for a fire station, for the U.D.C.

Irish Builders and Quantities.

Members of the Irish Builders' Federation have given notice to public bodies in Eire that they will not tender for works over £2,000 unless a quantity surveyor supplies the necessary bill of quantities.

Eire Builders and Advertising.

The building trade in Eire has been hard hit by the war. Builders in Cork are now running an advertising campaign to encourage people to build. They quote the remarks of the directors of the Bank of Ireland to further their campaign: "We have never had a moment's qualms about the value of our property or its future," said the directors. This is the first time Irish builders have carried on a joint advertising campaign.

TRADE NEWS

Natural Gas-proof Ventilation for Shelters.

A "Greenwood-Airvac" system of securing natural ventilation with gas and black-out security for shelters above or below ground has been perfected by Messrs. Greenwood & Airvac Ventilating Co., Ltd. Properly balanced continuous ventilation with unrestricted air flow is provided by the aerodynamically designed "Vacaire" extractor outlet and "Duplex" static louvre or positive intake. Both these are stormproof and lightproof, having been tested under war conditions. Full details are available from the company at Abbeydale-road, North Circular-road, Wembley, Middlesex.

Window Bracing.

The damage done by high explosive to glass—inconvenient and dangerous in the case of domestic and office buildings—is often grave where shops and commercial buildings are concerned, for these depend for selling attraction to a very considerable extent upon their window space. The means of protecting these against earth tremor and distant blast are subjects of great importance to shop- and store-keepers, to whom obscuring methods do not always appeal. The method of bracing glass against these shocks is one which has been employed for some time, and the manufacturers of the patented "Security" window-brace inform us that they have ample evidence to show that this method has proved itself in practice as a sure protection.

Merits claimed for this "Security" brace are non-interference with the window-display; and fitting at short notice. It has been employed by a large number of multiple firms and is recommended by a leading firm of shop-fitters. Full particulars and further evidence will be supplied to any inquirer by Window Brace, Ltd., 11, Buckingham-street, London, W.C.2.

The Heating of Air-raid Shelters.

The heating of air-raid shelters, both public and family types, has become a matter of urgency now that the cold weather is here and it is evident that air raids will continue. For reasons of public health it is important that all shelters be kept warm, dry and ventilated when unoccupied, and there is an urgent need for suitable heaters which are inexpensive in the first instance, easy to instal, economical to run and require a minimum of attention. The heat output should be capable of close control, to cover the different requirements of the unoccupied and occupied shelter.

An efficient coke-burning appliance provides a most economical form of space-heating, and the new series of heaters designed by the Eagle Range and Grate Company cater admirably to the requirements of all shelters, from the large public and industrial types to the small family Anderson shelter. Their chief features are: Reliability, economy (by which is meant high efficiency and low fuel cost); minimum of attention (stoking is required only twice a day); and safety. Four sizes are available for public shelters, and two smaller ones for "Anderson" and other domestic shelters. Full details—giving fuel consumption, heat output and illustrations—may be obtained from the company at Catherine-street, Aston, Birmingham, 6.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

H. ELLIS & SON (BUILDERS), LTD. (364,524).—Registered December 26. 78, Alscot-road, Bermondsey, S.E.1. Nominal capital: £1,000.

T. A. MARCHANT, LTD. (364,495).—Registered December 24. 61, Carey-street, W.C.2. Building material merchants, etc. Nominal capital: £1,000.

J. E. WILKINSON & SONS (BUILDERS' MERCHANTS), LTD. (364,659).—Registered January 2. Nominal capital: £1,200. H. Wilkinson, 9, Wharncliffe-grove, Frizinghall, Bradford.

TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Bethesda.—New intake, supplying and laying about 2,138 super yds. of 5-in. and 6-in. asbestos cement pipes on mountain and other incidental works for augmenting and improving water supply for U.D.C. H. Adams & Son, civil engineers, 60, Queen Victoria-st., London, E.C.4: *S. Foster Deacon, Plymouth, £3,487 11s. 11d.

Darwen.—Demolition of Britannia Mill, for T.C.: *W. Knowles, Ltd.

Doncaster.—New omnibus station, for T.C.: *P. P. Taylor (Doncaster), Ltd., South Parade, Doncaster, £979 0s. 3d.

Doncaster.—Extension to Beckett-rd. and Worcester-av., for C.B. Boro' Engr., 2, Priory-pl.: *F. Haslam, Ltd., Regent-chambs., Hall Cross, Doncaster.

Durham.—Works for County E.C.: Electrical installation at additional buildings at Colliery senior boys' and girls' school, *B. L. Oliver, Birtley, £528; electrical installation at East Stanley school, and similar work at Flint Hill school, *T. W. Atkinson, Oxhill, £309.

Eccles.—Fire station, for T.C. T. Elce, Boro'. Engr.: *Barnsley & Smith, Swinton, Manchester, £685.

Gateshead.—Warehouse for Tyne-Tees Shipping Co., Ltd., Newcastle-on-Tyne. Hetherington & Wilson, architects, County-chambs., Westgate-rd., Newcastle-on-Tyne: *J. R. Rutherford & Son, Jesmond, Newcastle-on-Tyne.

Gateshead.—Canteen, etc., for Emmerson, Walker & Co. G. Trench, architect, Monkseaton: *Bewley & Scott, Dunston-on-Tyne.

Glasgow.—Alterations and additions to Kelvingrove laundry. Miller & Black, architects, 132, West Regent-st.: Excavation, brick and building, *R. McGill; asphalt, *W. Briggs & Co., Ltd., Dundee; precast concrete floors, *Rapid Floor Co., Ltd.; plumber work and sanitary engineering, etc., *R. Soutar & Co., Ltd.; joinery, carpentry and ironmongery, *J. Ross & Sons, Ltd. (Rest of Glasgow.)

Glasgow.—Alterations and additions at police quarters, for T.C. Thomas Somers, architect, Municipal-chams.: Excavation, brick and mason, *Hunter & Clark, Ltd., Glasgow, £2,545 8s. 10d.

Hebburn-on-Tyne.—Extension to canteen, for R. & W. Hawthorn Leslie & Co., Ltd.: *J. M. Black (Junior), Ltd., Glen-st., Hebburn-on-Tyne.

Heckmondwike.—Alterations to garage to form auxiliary fire station, for U.D.C. F. W. Littlewood, Sur.: *A. Idle & Son, 2, Green-av., Chapel-la., Heckmondwike.

Leeds.—Retaining wall, stepway and paved area adjoining Yorkshire Hussar Hotel, Eastgate, for T.C.: *J. T. Wright & Sons, Ltd., £242 16s. 5d.

London.—Works for M.W.B.: 9-in. by-passes at six filtered water wells, *Direct Labour, £150; cast-iron pipes, etc., *Clay Cross Co., Ltd., *Stanton Ironworks Co., Ltd., *Staveley Coal and Iron Co., Ltd., *Butterley Co., Ltd., and *Cochrane's (Middlesbrough) Foundry, Ltd.; pipe-laying, repairs, alterations, etc., in various areas, *John Mowlem & Co., Ltd., and *Wm. Press & Son; sanitary accommodation and drainage at Barnes works, *Grace & Marsh, Ltd., £890 11s.

¶London (Air Ministry).—List of new contracts to the value of £500 or over placed for week ended Feb. 8:—

General maintenance work: J. Cryer & Sons, Fleetwood; J. G. Green & Sons, Ltd., Morpeth; Bewley & Scott, Ltd., Dunston-on-Tyne; Janes (Builders), Ltd., London; Geo. Riches, Ltd., Fareham, Hants; Brazier & Son, Ltd., Southampton; and Negus & Sons, Ltd., Cambridge.

Civil engineering work: J. Mowlem & Co., Ltd., London.

Aerodrome surface work: Landing Grounds Corp. (Gt. B.), Ltd., Isleworth.

Trough units: British Steel Piling Co., Ltd., London.

Building work: R. M. Douglas (Contractors), Ltd., Birmingham.

¶London (War Dept.).—Works contracts placed for week ended Feb. 8:—

Hutting (erection): R. M. Phillips & Son, Ltd., Estate-yard, Brigg; Davis Contractors, Ltd., 312, Kilburn High-rd., London, N.W.6; C. Jenner & Son, Ltd., 53, Broadmead-rd., Folkestone; and Wm. Dowling, Ltd., Cromwell-rd., Belfast.

Miscellaneous work: A. Davey, 18, Queen-st., Blackpool; J. & T. Parker, Ltd., Commercial-rd., Sunderland; Johnson & Sons (Liphook), Ltd., Longmoor-rd., Liphook; and F. Woodhams & Sons, Ltd., 17-19, Lardley-rd., Sevenoaks.

Building work: H. H. Brook (Contractors), Ltd., Stanley-st., Sowerby Bridge; and Thos. Clements & Sons, Ltd., Selbourne-gdns., Newcastle, 2.

Maryport.—56 houses, for North-Eastern Housing Assn., Newcastle-on-Tyne. L. J. Couves & Partners, architects, Gosforth, Newcastle-on-Tyne: *G. M. Pearson, Houghton-rd., Hetton, Co. Durham.

Middleton.—Making-up Glebe-st. and Mount-rd. extension, for T.C. J. Pollard, A.M.I.Struct.E., Boro' Eng. and Sur.: *Boro' Sur.'s Dept., Middleton.

Millom.—Roads and sewers in connection with 66 houses, for North-Eastern Housing Assoc., Newcastle-on-Tyne. J. S. Stout, architect, 36, Lowther-st., Whitehaven; *L. W. Evans (Contractors), Ltd., 18, Norfolk-st., Sunderland.

Newcastle-on-Tyne.—Works for City Council: Drainage of surface-water, hospital nurses' home, *E. Thompson, 12, Grey-st., Newcastle, £115; alterations to reception unit at hospital, *H. Kindred, 145, West-rd., Newcastle, £187; repairs to Deep Dene House, *J. Simpson & Sons, Ltd., Bk. Stephenson-terr., Newcastle, £140.

Paisley.—Buildings for the Corporation, Frank Stuart, architect, Municipal Offices: Excavation, brick and building, *C. Johnstone, Ltd.; joinery, carpentry and ironmongery, *J. Clark & Co., Ltd.; slater and

DON'T TENDER UNSUCCESSFULLY

SECURE CONTRACTS WITH

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roughcasting, *Allan Stevenson; plumber and sanitary engineering works, *Hunter & Gowdie, Ltd.; painting, glazing, *Thorburn & Dunlop. (All of Paisley.)

Ripon and Pateley Bridge.—Water storage tank, etc., for R.D.C. D. H. Moore, civil eng., 10, York-pl., Scarborough :—

*J. Brotherton & Co., Ltd., 23, Queen's-terr., Otley ... £637 0 0
*Wm. Birch & Sons, Ltd., Spen-la., York 454 14 4
*J. W. Smith, North-st., Ripon 415 9 6

Stoke-on-Trent.—Depots, for T.C. A. Burton, M.I.C.E., City Eng. : *G. & J. Seddon, Ltd., Town Hall-chambs., Stoke-on-Trent, £2,160; *Naylor & Nutt, Coronation-st., Tunstall, Stoke-on-Trent, £1,796.

Sunderland.—Conversion of premises into house and shop, Olive-st., for C. Walker : *T. W. Ford, Sunderland.

Wandsworth. — Demolition of property known as The Cottage, Roehampton-la., for B.C. : *E. White, £210.

Warrington.—Extensions at electricity sub-station, for T.C. J. Y. Hughes, Boro. Sur. : *H. Fairclough, Warrington-rd., Howley.

CURRENT AND PROPOSED BUILDING WORK*

Batley.—T.C. approved : Weigh office, for Norman Jackson.

Bristol.—It is proposed that Bristol shall have two concentrators, at £3,000, to deal with kitchen waste for pig feeding.

Bury. — Doniger, Ltd., Carnarvon-st., Cheetham, Manchester, acquired church, for conversion into factory.

Camberwell.—B.C. recommend expenditure of Works and Public Health Committee for financial year ending March 31, 1942, amounting to £218,846.

Castleton. — A. Pursglove, architect, 16, Oxford-st., Manchester, preparing plans for structural alterations to "Junction" public-house, for W. Robinson.

Caterham and Warlingham.—Parks, Housing and Town Committee of U.D.C. recommend £365 for repairs to houses at Warlingham.

Chesterfield.—T.C. approved extension to mess room for Markham and Co., Ltd.; alterations to school for Chesterfield and North Derbyshire Royal Hospital; additions and alterations to "Rye Flatt" for E.C.

* See also List of Contracts Open.

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Corby.—U.D.C. to erect additional houses and to complete 40 houses in course of erection. Plans by Gotch, Saunders and Surridge, architects, Kettering.

Dunston-on-Tyne.—G. E. Trench, 25, Westfield-av., Monkseaton, Whitley Bay, architect for canteen and offices, for Emmerson Walker, Ltd.

Ennersdale.—R.D.C. resolved that application be made to M.H. for consent to additional 100 houses.

Gateshead. — Plans approved for extensions to loading dock, for Gateshead Co-op. Bakeries, Ltd.

Haslingden.—E.C. propose adaptation of hall for school canteen, at £1,000. Plans by R. Taylor, Boro' Sur.—Lancashire P.A.C. propose gymnasium.

Haslingden. — T.C. decided to proceed as soon as possible with 100 houses.

Kent.—C.C. recommend additional expenditure of £226 10s. in respect of two cottages at Lacton Manor Farm, and other works as follows : Sundridge Institution, works of reinstatement, £410; hospital, Farnborough, replacement of damaged glass and minor repairs, also reinstatement of Bromley and Chislehurst wards and repairs to Albert and Victoria wards, at £1,800.

Kettering. — T.C. submitted scheme to M.H. for laying 12-in. water main, for additional water supplies. Plans by F. Smith, Acting Boro' Sur.

King's Lynn.—Ouse Catchment Board propose large drainage scheme for Fens. Sir M. MacDonald and Partners, consulting engineers, 72, Victoria-st., Westminster, S.W.1.

Lancashire. — C.C. propose improvements to Fylde Institution, at £1,021. Plans by S. Wilkinson (F.), County Architect, Preston.—P.A.C. repairs to office, roof work, etc., at hospital and mortuary, etc., at £350.—C.C. propose rewiring electrical installations at public institutions, at £3,500.

Leeds.—City Council to be asked to approve a recommendation of Finance Committee authorising construction of road works, sewers, etc., on 40- to 50-acre site.

Lichfield.—Staffs C.C. propose infectious diseases hospital.

Limerick.—City Council intend to start £200,000 building scheme, and it is proposed shortly to invite tenders for 400 houses.

Liverpool. — Emergency Committee proposes to build 10 bungalows to shelter about 10 families bombed from their homes.

Manchester. — L.M.S. Railway prepared plans for widening three bridges.—T.C. approved : Loading bay to factory, Ancoats, Hugh Stevensons, Ltd., Pollard-st., Ancoats; fire station to works, I.C.I. (Dyestuffs Group), Ltd.; works extensions, Ferranti, Ltd., Oldham; alterations, 197, Clarendon-rd., Whalley Range, J. Duckworth, 35, Badminton-rd., Chorlton-cum-Hardy.

Middleton. — E.C. proposes school canteens. Plans by J. Pollard (L.), Boro' Eng. and Architect.

Newcastle-on-Tyne.—E. W. Younger and Co., 86, Quayside, to build new premises.—C. F. Moxon, Regent-st. South, Barnsley, architect for alterations to "Nag's Head" Inn, Nun-st., for Chennell and Armstrong, Ltd.—Bathrooms to be added to premises. Architects, Marshall, Tweedy and Bourne, Grainger House, Blackett-st.—Scott and Turner, Hollingworth-pl., to build new store. Plans by Hetherington and Wilson, County-chams., Westgate-rd.

Northampton.—Amalgamated Engineering Union propose 10 houses, Boughton.

Nottingham.—T.C. propose to instal electricity in buildings at crematorium.

Pontefract.—T.C. propose adaptation of refreshment room for mortuary, at £513.

Scarborough. — T.C. to extend electricity sub-station, at £160. No contracts let. Tenders to be obtained.

Shipley.—U.D.C. approved : Works extensions, Hepworth and Grandage, Ltd., St. John's-rd., Bradford; shops, F. Holdsworth, 32, Saltaire-rd.

Shropshire.—County Standing Joint Committee reported they had approved plans for two police houses, construction of cells, etc., at £4,000.

South Shields.—T.C. to resurface Templetown and Lawe-rd., at £1,000.—L. J. Couves and Partners, Gosforth, Newcastle-on-Tyne, prepared plans for office accommodation, for Tyne Improvement Commission, Bewick-st., Newcastle-on-Tyne.

Swansea.—C.B. approved : mission hall, Treboeth, for A. J. Chilcot.

Tynemouth.—T.C. approved garage, stores and café. Plans by D. M. O'Herlihy, Boro' Sur.

Warrington.—E.C. propose switch-house. Plans by N. T. Smith, Boro' Electrical Eng.

Whitehaven. — Board of Management of hospital propose maternity unit.

Wigton.—Alterations to be carried out to "Bird in Hand" Inn, Oulton, for Jennings Bros., Ltd., Castle Brewery, Cockermouth.

Worksop.—R.D.C. propose fire station.

Wrexham.—T.C. propose extension of fire station.

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